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the newsletter of the Small Air Forces Clearing House

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SAFO EDITORIAL POLICY: The purpose of the SAFCH is to "promote interest in the history and modeling of the aircraft of the smaller countries". In support of this goal, the SAFCH encourage international cooperation in researching the history of aviation on all aspects of aviation, both military and civil, from all periods of time, and for all the smaller countries. In return for this support, members are asked to submit occasional progress reports for publication in the SAFO. While the final results should appear in the most prestigious publication possible, it is requested that the SAFCH be mentioned (with address) in the article and that SAFO be afforded the opportunity of reprinting the material.

SUBSCRIPTION RATE: Subscription to the current volume of the SAFO is US \$7.00 for 4 issues per year via surface mail. For air mail delivery, add \$6.50 for Europe and Latin America or \$8.25 for Asia, Africa, and Australia. New subscriptions begin with all issues of the volume current at the time payment is received; if you desire otherwise, please specify with your payment which issues are desired. Send remittance to Jim Sanders, 27965 Berwick Dr., Carmel, CA 93923 USA. You can also have your bank transfer money directly to the SAFCH bank account: Routing # 3220-7021-3; Coast Saving and Loan, 137 Carmel Valley, 27845 Berwick Dr., Carmel, CA 93923; Credit to James V. Sanders, Account number 03105350.

BACK ISSUES: Either Back issues or Xerox copies of out-of-print issues are available for all issues of the SAFO published. For a list of back issues and their costs, see the "SAFCH Sales Service" sheet in this issue. For a list of all issues and their content, send two 1st class stamps (or 2 IRCs) to the editorial office.

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INSTRUCTIONS TO AUTHORS: Manuscripts may be submitted in any form; authors whose first language is not English may submit a rough translation of the text and the editorial office will put it into good English. Authors using a computer and Microsoft Word should consider sending the manuscript on disc. All art work must be ready for printing. It is best to plan for the art to be reduced to 75% in printing and the finished drawing should fit into the 7.5 inch by 10 inch working area of the final page. Art work that does not fit this requirement will have to be cut and pasted to fit; no problem, but things might not look exactly as you want them to look.

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COVER COMMENTS: A Vultee "Valiant" of the Chilean Air Force serves to introduce Dan Hagedorn's in-depth study of this trainer's service with the air forces of Latin America. (Photo: USAF #37676 via Dan Hagedorn)

IN MEMORIAM: This issue is dedicated to my late father who taught me, by example, that honesty and integrity are more important than profit and ego.

EDITOR'S NOTE: It is my sad duty to report the death of SAFCH member Tommy Kay of Del City, Oklahoma. Tommy was a charter member of the SAFCH and his enthusiasm for the small air forces and his continuous support of the SAFCH was of great importance to me. My condolences to his family. We'll miss him too.

"The Israeli Air Force has finally met a foe that it can not defeat. During migration periods, large flocks of birds fly across the eastern Mediterranean interfering with Israeli Air Force operations. The generals demanded that some way be found to get the birds out of the way, but the birds have been using this route for thousands of years and they ignored all efforts to move them. Instead, the Israeli Air Force had to adjust its flight patterns to make way for the birds. This report appeared on one of the national newscast."

Chris Thornburg (SAFCH #175), 4940 Mermaid Blvd., Wilmington, DE 19808

"I am looking for a copy of the book "50 Years: Philippine Air Force" by Aquino, Vasallo, & Anido (1971). I would like to purchase this book whether new or used."

Jean Yves Goffi (SAFCH #427), Residence Vallon St. Hilaire - Bat 6, rue de la Petite Porte, 70 000 Rouen, FRANCE

ARGENTINA

LATIN AMERICAN WINGS (Monsenor Alberti 1575, 1643 Beccar, Republican Argentina; 4 issues US \$7.00 to Latin America, \$10.00 surface to all other countries)

1/2 86 (24 pages) "North American NA-72s in Brazil" 6 pages including individual aircraft histories and 2 photos. "Peruvian Registration System" 2 pages on civil registration including 4 photos. "Defence Aviation News" 3 pages on Argentina, Brazil, Chile, Peru, Nicaragua, & Uruguay. "Civil Aviation News" 2 pages. "Accident Report" 3 pages including military losses. "The Industrial Observer" 2 pages. "Civil Register: LV-MSA to LV-MSZ" one page. Photos: Argentine C-47B-30-DC 'T-103', Cessna A182K FAA 'PG-359', Bell UH-1H 'H-15', & Piper PA-A-31-235 'LV-MSF'; and Brazilian EMB-120 'PT-SIH'.

AUSTRALIA

AUSTRALIAN PLASTIC MODELLER'S ASSOCIATION (APMA, PO Box 51, Strathfield, NSW 2135; 4 issues airmail A\$ 18.00).

Nothing received since 4/85

AUSTRIA

OFH NACHRICHTEN (Oesterreichische Flugzug Historiker, Kannwegasse 1/15, A-1150, Wien).

1/86 (43 pages) "Udet U 12 Flamingo" 30 pages including 11 photos, 11 side-view drawings, 2 3-view drawings, 1/72-scale 3-view drawing, and histories of individual aircraft. "25 Jahre HS-Stützpunkt Aigen-Ennstal" 5 pages including 1/72-scale 3-view drawing of Alouette III '3E-KI'.

PANORAMA (IPMS Austria, Nordmanngasse 11-13/4/6, A-1210, Wien).

3-4/85 (36 pages) "15 US Luftflotte über Österreich" 8 pages including 4 photos and 8 side-view drawings of USAAF aircraft that operated over Austria during WWII. "Meridionali Romeo Ro 37" 5 pages including 3 photos of aircraft in Austrian AF markings and a 2-page, 6-view, 1/72-scale drawing.

1/86 (36 pages) "Die Lockheed C-130 Hercules im Modell" 11 pages including list of C-130 variants, list of countries using the C-130 with type used (51 countries), and side-view drawings of Danish, Moroccan, Algerian, and Colombian Hercules. "B-57 Canberra" 7 pages including 8 side-view drawings (one Pakistani) and 2 pages of interior detail.

BELGIUM

KIT (IPMS Belgium, Te Couwelaarlei 103 bus 21, B-1200 Deurne; 4 issues for US\$ 8.00, add \$2.00 for airmail, no personal checks accepted).

#60 Winter 86 (30 pages) "Battle Belges de l'Aviation Militaire" 15 pages including 17 photos, a 3-page 1/72-scale 4-view drawing, individual aircraft histories, and instructions for converting the Airfix kit to the Belgian version. One page drawing (port & starboard views) of Belgian F-104G 'FX 99' as seen at Greenham Common 1983.

#61 Spring 86 (30 pages) "Belgium Hunters Part 4: F.Mk 6" 4 pages including one photo, 2 side-view drawings, and individual aircraft histories. "Fairey Fox II" 2-page 5-view drawing. "Belgium Air Force in the Past" 2 pages of 4 photos of C-119 and a one-page photo of F-104.

BRAZIL

EM ESCALA (IPMS Brazil, Rua Arquias

Cordeiro, 316 S/502, CEP 20770, Meier, RJ).

2/86 (22 pages) "Brazilian Texans" 7 pages including 1/72-scale 4-view drawing of Navy NA-46 and 7 side-view drawings of FAB T-6's. "Modeling the B-17E/G/H" 6 pages including extensive conversion drawings and 3-view drawing of B-17 '5408' of the FAB. "Interior Colors of FAB P-40N" 2 pages of drawings and information obtained from the aircraft in the Museu Aeroespacial.

CANADA

RANDOM THOUGHTS (IPMS Canada, Box 626, Stn. B, Ottawa, Ontario K1P 5R7; 6 issues for US\$ 12.00 in US \$13.00 elsewhere).

17/5 (24 pages) "Aircraft Seats" 2 pages of drawings (P-61, A-26, P-51, C-47, C-87, C-54, B-25, Lodestar, Mariner, SB2C, B-24, B-26, C-46, & Constellation. "Voodoo Schemes" 5 pages including 5 photos and 8 side-view drawings. "Beaver Miscellany" 5 pages including 7 photos of civil Beavers on wheels, floats, or skis, and 2 pages of drawings of interior and details.

CZECHOSLOVAKIA

LETECTVI + KOSMONAUTIKA (Best obtained by exchange with a friend in Czechoslovakia).

5/86 (44 pages) "Museum Exhibit Ae-10.10" 3 pages including 6 b&w photos and one color photo. "Roussel 30" one page including 2 photos and a small scale 3-view drawing. "Modeling the MB-200: Part 3" 2 pages including 1/72-scale side-view drawings of French & Czech versions with interior details. "Suchoj Su-9/11: Part 1" 3 pages including 4 photos and drawings of interior detail of Su-9. "FMA IA-58C Pucara Charlie" 1/2 page with one photo and small 3-view drawing. Photo: Yugoslav Beech Super King Air 200 'YU-BMF'. Color side-view drawings: Jak-9, Nakajima G5N, Cessna Bobcat, Roussel 30, & Miles Martinet.

6/86 (44 pages) "Savoia Marchetti SM-74" one page including 2 photos and small scale 3-view drawing. "Modeling the MB-200: Part 4" 2 pages including 2 photos (one of a Bulgarian machine) and 1/72-scale drawings of interior detail. "Suchoj Su-9/11: Part 2" 3 pages including 2 photos of Su-11 and full-page scale 3-view drawing of Su-9 and Su-11. "FVM (Sweden) J-23" 1/2 page with 2 photos and small 3-view drawing.

7/86 (44 pages) "Modeling the MB-200: Part 5" 3 pages including 10 photos. "Kawasaki Ki-10" one page including one photo and small scale 3-view drawing. "SZD-36 Cobra 15" 5 pages including 8 photos, 7 color side-view drawings (Czech, Polish, East German, Bulgarian, & Hungarian), and full-page scale 3-view drawing with interior detail.

DENMARK

NYT (IPMS Denmark, c/o Kai Willadsen, Kastellet 54/322 Kobenhavn O (01) 12 94 51; 4 issues for 70 Dkr surface, 80 Dkr airmail).

Nothing received since #31

ENGLAND

MAGAZINE (IPMS England, Flat 4, 18 Delancey St., London NW1 7NH; 6 issues for US\$ 20.00 + \$1.00 joining fee).

2/86 (20 pages) "Czech Spitfires" 3 pages including 7 side-view drawings. "PZL P-46 Sum" 2 pages including 1/72-scale 4-view drawing, side-view drawing of P-42, and drawings of details. "Spitfire Mk.Vb flown by Sqn. Ldr. Jan Zumbach" 1/2 page with side-view drawing of 'RF-D'.

PLASTIC KIT CONSTRUCTOR (PKC, 22 Slayleigh Ave., Sheffield S10 3RB, South Yorkshire; USA/Canada: J.J. Daileida, 4314 West 238th St., Torrance, CA 90505; 4 issues \$18.00).
Nothing received since Autumn 85

FINLAND

MALLARI (IPMS Finland, PL 798, 00101 Helsinki 10; 4 issues \$6.50, add \$1.00 for airmail and \$1.50 for cashing personal check).
Nothing received since #53

FRANCE

LA VITRINE DU MAQUETTISTE (IPMS France, 3 rue de l'Amiral Roussin, 75015 Paris; 4 issues 60 FF surface, 80 FF air, back issues 12 FF, "La Lettre de l'IPMS" 25 FF).

#26 (44 pages) "L'Alpha Jet" 7 pages including 5 color photos, 13 b&w photos, and 2 pages of drawings of details; all of Belgian aircraft. "Les Avions de Baracca" 3 pages including one photo and a pages of drawings of the Spad VII and Nieuport 11 flown by the Italian ace Baracca. "Le North American Yale" 4 pages including one photo and 6 side-view drawings. "Avions Francais en Slovaquie et Tchecoslovaquie" 2 pages including 4 photos of Czechoslovakian and Slovak MS-230s (a SAFCH contribution). "Le Morane Suisse D-3801" 6 pages including 3 photos and 1/48-scale 3-view drawings of the Swiss Morane D-3801. These articles are a continuation from the 10th anniversary special published last issue.

GERMANY

MITTEILUNGEN (IPMS Germany, Oertzenweg 12b, 1000 Berlin 37; 12 issues DM 42.00 Europe, DM 49.00 USA, DM 55.00 Japan, DM 61.00 Australia).

3/86 (30 pages) "Kit Report" 2 pages including 1/72-scale drawings of Aeroclub's 1/72-scale vacuform kit of the Klemm L25.

4/86 (30 pages) Photo of Junkers J 15.

ITALY

IL NOTIZIARIO (IPMS Italy, CP 182, 41100 Modena Ferrovia; 4 issues 24,000 Italian Lira in Europe or \$18.00 overseas).

1/86 (32 pages) "Blanik" 5 pages including 9 photos and drawings of Czech glider in Italian AF service.

JP-4 (JP-4, CP 1550, 50100 Firenze; L 27.000 Europe, L 30.000 elsewhere).

2/86 (84 pages) Photos: Dubai G.222 '301' (color) and Venezuela Citation '2222'. "Super Etendard" 9 pages including 6 photos, small 3-view drawing, and cut-a-way drawing. "Ilyushin Il-28 Beagle" 4 pages including 5 color side-view drawings (North Korea, Nigeria, Egypt, & Finland) and a page of drawings of details.

3/86 (84 pages) Photos: Panama Lockheed L.188 'FAP-400', Chinese MiG-19 '3283', & RNZAF Skyhawk with new low-visibility insignia. "Un Giorno da Leoni" 5 pages with 4 color and 2 b&w photos of Italian F-104. "Valmet Turbo-Trainer" 7 pages including 3 photos, 3-view drawing, and cut-a-way drawing. "A Difesa del Belize" 3 pages with 2 color photos (RAF Gazelle & Harrier) and 1 b&w photo of Belize Defence Force BN-2B Defender. "Kingfisher" 4 pages including 4 color side-view drawings (Fleet Air Arm & RAAF).

4/86 (84 pages) Photos: Turkish AF Cessna Citation '12-001' (color); Venezuelan AF SH-3D. "La Missione Aeronautica Italiana in Giappone" 4 pages including 7 photos of delivering Fiat BR-20s to Japan.

5/86 (84 pages) Photos: Italian P.68

Observer Polozia 'PS-A94; Spanish EF-18 '151-02' (color); South Korean F-16C/D '370'; and Indian Mirage 2000H 'KF 101'. "Duale Futuro per l'Aviazione Agricola" 11 pages including 14 photos (2 color photos of Brazil's Ipanema). "Tornado Verso Quota '1000'" 7 pages including 7 photos (color photo of Saudi '701'), scale 3-view drawing, and cut-a-way drawing. "Il CL-215 con l'Esercito del Aire" 3 pages including 2 color and one b&w photos of Spanish CL-215. "Il SAR di Linate" 3 pages including color photos of rescue AB.212A. "Il Volo su Vienna" 4 pages including 6 photos of SVA. "Lockheed C-130 Hercules" 3-page modeling article with list of all countries using the C-130 with numbers used (55 countries) and 4 color side-view drawings (Italy and Libya).

AEROFAN (Gioglio Apostolo, via Ampere 49, 20131 Milano; 4 issues for US\$ 16.00).

4/85 (36 pages) "The Bomber which never Flew: Part 3" 5 pages including 2 pages of drawings of the Macchi MC 300. "An Italian Amphibian in the USA" 8 pages including 3 color photos & 17 b&w photos of Savoia Marchetti S.56 recently restored in the USA. "Dakota is Fifty" 12 pages including 3 color photos (Italian AF), 26 b&w photos (mostly Italian but also Spain, Turkey, Holland, Canada, Thailand, Denmark, & West Germany), and individual histories of Italian civil Dakotas. "The CR 32 in the RHAf in Last Part of the War" 4 pages including 4 photos of aircraft in Hungarian markings. Photos: civil Macchi M 16, Ansaldo A 300, & Ansaldo SVA.

MALTA

MODELAID INTERNATIONAL (MAI, 206 Old Bakery St., Valletta; 7 issues \$27.50 airmail).

13 (32 pages) "Hawker Hunter" 11 pages including 17 photos (Jordan, Saudi Arabia, Switzerland, & Kenya), 3 color side-view drawings (Saudi Arabia, RAF, & RN), 8 side-view drawings (4 RAF, RN, Singapore, Rhodesian, & Kuwait), and 2 full pages of 1/72-scale drawings of Hunter F.6, F.6A, & FGA.9. "Flying Colours: Japanese Air Force 1935-1945; Part 2" 2 pages including color side-view drawing of Nakajima Ki-27. "Macchi C.202" 6 pages including 4 photos, 3 color side-view drawings, 7 side-view drawings, full-page 1/72-scale 5-view drawing. "Air War in the Med: Blenheims in Action from Malta (June 1941 - March 1942)" 2 pages including one photo. "Vought F7U" 4 pages including 2 photos, 4 side-view drawings, full-page 1/72-scale 3-view drawing. "Modelair Colour Guide" #3 Dark Olive Green (Italian AF WWII Verde Scuro, Luftwaffe WWII RLM 70 Schwarzgrun, RAAF WWII Dark Green) and #4 Sand Brown (Italian AF WWII Nocilla Chiaro, Italian AF pre-WWII Marrone, Luftwaffe WWII RLM 79 Sandgelb, RAAF WWII Light Earth, RAAF post-WWII Tan, Swedish AF post-WWII Tan, USN post-WWII Low Visibility Tan).

POLAND

TECHNIKA LOTNICZA I ASTRONAUTYCZNA

8/85 (28 pages) Color side-view drawings: camouflaged Polish Lim-6, Lim-6bis, Lim-6M (MiG-17s). Full-page scale drawings of LAK-12 Lietuva and Soyer-Barritault SB-1 Antares. "New Information, Riddles, and 'white spots'" 2 pages including 8 photos of new information and requests for information about pre-WWII Polish aircraft.

8/85 (28 pages) Color side-view drawings: NC 701 (Siebel Si-204D) Polish AF and 'SP-LFF'. Full-page scale drawings of CASA-Nurtanio CN-

235 and DHC-8. "Polish Aircraft Engineering Activity in autumn 1939" 2 pages including 3 photos. Color side-view drawings: TS-16 Grot, PZL-106 Kruk, PZL-106 Turbo Kruk, 7 PZL-130 Orlik.

11-12/86 (28 pages) Color side-view drawings: Polish 11-12B (PAF '001', 'SP-LHD', & 'SP-LHB'). Full-page scale drawings of SAAF-Fairchild SF-340 and Pilatus PC-9. The History of Polish Gliders during WWII" 3 pages with 6 photos. Color side-view drawings of Polish Bucker and Klemm aircraft (PAF Bu-133, Bu-133 'SP-BDG', Bu-131 'SP-AFO, K1-35B 'SP-AFL', K1-35B 'SP-AFM'.

SOUTH AFRICA

AFRICAN AIR REVIEW (Aviation Society of Africa, PO Box 1413, Alberton 1450; 4 issues US\$ 8.00).

3/86 (8 pages) "African News": air force activity in Angola, Bophuthatswana, & Botswana.

4/86 (4 pages) "African News": air force activity in Angola and Mozambique.

5/86 (8 pages) Nothing of small-air-forces interest.

AIR AFRICANA (Published by ASA: see address above)

1/86 (24 pages) "50th Anniversary: Spitfire - A Brief History" 2 pages with 2 photos of SAAF Spitfire. Airline Profile - Air Malawi" 8 pages with 2 photos and Fleet List (1964-1985). "Dakotas in Southern Africa" 3 pages with 3 photos of SA civil DC-3. "SAAF Squadrons - No. 3 Squadron" one page with 2 photos (Mirage IIIEZ & IIIDZ). "Aircraft of the SAAF Museum" One page with photo of SAAF Shackleton. "Camera Report" 4 photos (B-707 'ZS-LSF', Stearman 'ZS-LRM', CAF Challenger, & Friendship '7P-LAJ'). "Aircraft Modelling" 4 pages on modeling SAAF Spitfire variants including conversion drawings and descriptions (but no drawings) of color schemes.

SWITZERLAND

VIRUS PLASTICUS (IPMS Switzerland, c/o Mathias Weichelt, Zelgstrass 27, 3027 Bern; 4 issues for Sfr 24).

1/86 (32 pages) Nothing of small-air-forces interest.

2/86 (32 pages) "F-4E Phantom II" 8 pages including table listing number used by each country and a 4-view drawing of camouflage.

USA

WWI AERO (Leonard Opdycke, 15 Crescent Rd., Poughkeepsie, NY 12601; 5 issues \$ 20.00; tax deductible).

#110 (98 pages) "Bristol Scout" a 2-page 3-view drawing. "Cockpit Instruments: Part 6" 9 pages. "The Thomas HS Seaplane" 7 pages including 9 photos and 3-view scale drawing. "Albatross W.4" 4 pages of scale drawings.

DIRTY PLASTIC (IPMS Phoenix, 509 W. Camino Dr., Phoenix, AZ 85021; 4 issues for \$6.00 USA or \$9.00 elsewhere).

Summer 86 (20 pages) "Hungarian Gustav" one page with side-view drawing. "Hungarian Me 210" 2 pages with one pages of drawings and modeling notes. "Avia BH-3" 2 pages with kit review and full-page 5-view 1/72-scale drawing. "Modeling the Cyclone Hawk" 2 pages of text on building the Hawk 75 from the Monogram P-36A (Editor's note: I've been waiting for an article on this subject for a long time, and all it says about the cowl is "Vacuform a cowl and glue it into place". What cowl do

I use for a pattern?) "Fokker DR.1" 7 pages with 13 side-view drawings. "Big MiG" 2 pages with one page of drawings of Libyan MiG-25.

IPMS HAWAII (1650 Lehia St., Honolulu, HI 96818; \$5.00 for mainlanders and \$6.00 for those overseas).

#16 (16 pages) "Singapore's Cute Little Air Force" 12 pages including full-page, 3-view drawings of two A-4S, TA-4S, F-5E, two Strikemaster (one camouflaged & one gloss red/white), Skyvan, C-130, and 2 Hunters. (Editor's note: This issue is abstracted out of order since the original copy was lost in the mails. Many thanks to LEO of WW I AERO for providing a replacement copy.)

#20 (16 pages) "Bob Tames the 'Tabby'" one-page on modeling the Japanese C-47.

#21 (16 pages) "Back to Wake Island" 11 pages including 10 photos of 40 retired Marines and 80 ex-civilian workers return to Wake Island. "Having a Wake Wildcat" 2 pages about converting the Revell 1/32-scale Wildcat.

PRI-FLY (IPMS Washington DC, c/o Carol Fleckenstrin, 1810 Michael Faraday Dr., Suite 101, Reston, VA 22090; 4 issues \$6.00 for US, \$7.00 all others).

6/86 #59 (16 pages) "Macchi M.7" 5 pages including 7 side-view drawings (Italian & Swedish) and review of Libramodels' kit. Review of new FS-595a "Fan Deck" with color chips arranged for easier comparison. Order the Fan Deck (\$6.00) and the Color Chip Book (\$5.50) from: General Services Administration, Specifications Section, Room 6039, 7th and D Streets, SW, Washington, DC 20407.

WEAPONS AND WARFARE MONTHLY (218 Beech St., Bennington, VT 05201; 12 issues \$20.00 US, \$25.00 foreign.)

1-2/86 (54 pages) "Dewoitine HD-780" one-page 4-view scale drawing.

3/86 (30 pages) Nothing of small-air-forces interest.

SHORT REVIEWS

The following two book have been received from the publisher for review. Since the do not fit into the usual subject matter of interest to the SAFCH, they will not be reviewed in depth and they will not be kept in the editorial office. One copy of each book is available from the SAFCH at \$5.00 off the listed price; they money collected will be sent to the publisher to encourage further publications.

FIRE & RAIN: A TRAGEDY IN AMERICAN AVIATION by Chandler. 6 inches by 9 inches, 162 pages, 32 photos, clothbound. Published by Texas Monthly Press 1985. \$15.95. An in-depth study of the crash of Delta flight 191 at Dallas/Fort Worth on 2 August 1985. The author probes the dynamics of the disaster from technological, political, and human perspectives. A must for anyone who flies the air lines.

KARA KUSH by Idries Shah. 6 inches by 9 inches, 575 pages, clothbound. Published by Stein and Day \$17.95. This novel about fighting in Afghanistan is a "good read", but it romanticizes this brutal and dirty war too much for my taste. However, it does contain an insert from the Afghan Refugee Fund (Dept. I.S. P.O. Box 176, Los Altos, CA 94023) so it deserves our support.

A NEW MAGAZINE FROM ARGENTINA

LATIN AMERICAN WINGS, Monsenor Alberti 1575, 1643 Beccar, REPUBLICA ARGENTINA.

Those of you who subscribed to the now defunct *Aviacion Latinoamericana* (ALA) already know that South American enthusiasts can publish an excellent and informative periodical provided they can keep out of financial troubles. This latest endeavor is a near clone of ALA and is put together by many of the same people who brought you ALA. However, I see a larger number of SAFCH members on the mast head including Jackson Flores Jr. as the Managing Editor and J. Nunez P. and A. Milanese as Correspondents. I wish this new publication all the best and I offer them the full moral support of the SAFCH.

The premier issue is described in detail in the abstract section of this SAFO, so I wouldn't repeat myself here. Instead, let me reprint Publisher's Carlos Arturo Ay's editorial: "After lengthy months of thorough planning and careful analysis, we have finally reached the closing date of our first issue. Inside, we hope that our readers will enjoy the several sections that are a part of this and future editions of LAW, with news concerning civil and military aviation, accidents, airshows and brief items on the Latin American aviation industry scene. Furthermore, a list on the LV-MS Argentine registrations by renowned civil aviation researcher, Francisco Halbritter, has been included. In the feature section, LAW's Managing Editor has made an attempt at briefly recounting the history of North American's NA-72s in service with the Brazilian Aviacao Militar and later with that nation's air force (although the publisher feels it looks more like a long drawn essay, rather than a brief story). On the civil scene, Peruvian researcher Javier Goto explains his country's interesting registration system. In closing this very brief editorial, we would ask our readers for comments and criticisms concerning LAW and in which areas could be improved. Remember, this magazine is just as much yours as it is ours and any suggestions will be more than welcome. For better or for worse, LAW has now been launched and may it have a long life." Articles scheduled for 1986 include: "Chilean Lockheed Twins", "Argentine Naval Skyhawks in Malvinas", and "Air Operations in the '63 Revolution".

Subscription information is rather complicated: Surface delivery is \$7.00 to all of Latin America and \$10.00 elsewhere. Air delivery is \$8.00 to Brazil, Uruguay, Peru, Chile, and Paraguay, \$11.00 to all other Latin American countries, \$14.00 to the USA and Canada, \$15 to Europe, and \$18.00 to all other countries. Payment by check in US currency to the order of "Latin American Wings".

POLISH AVIATION PICTORIAL

POLISH WINGS, Andrzej Glass and Adam Jonca with translation by Emma Harris. Interpress Publishers, Warsaw 1985. Hardbound, 108 pages, 23 cm by 21.5 cm.

In 13 chapters (96 pages), this book reviews Polish aviation from 1647 (yes that is 1647, not 1947) to the present time. The chapters are: The Pioneer Days, Military Aviation 1918-1939, Military Aviation 1939-1945, Military Aviation after 1945, Polish Airlines, Agricultural and Industrial Aviation, Flying

Ambulance Services, Aviation Sports, Gliding, Ballooning, Parachuting, and Polish Aircraft Abroad. A 12-page appendix contains color drawings of the following Polish aircraft: Fokker EV, PZL-13B Karas, MS 406C1, Spitfire Mk.VB, Yak-1M, TS-11 Iskra, MiG-21F13/PFM/R/UM/PM, Fokker F-VII/3m, Il-62M, RWD-9, PZL-104, and SZD-42-2 Jantar.

Except for a 3-page introductory chapter written in English, the book is devoted entirely to photos and their captions (also in English); one or two to a page, but never more than 3 on a page. Contrary to what we have come to expect from Eastern-European book, these photos are clearly reproduced on glossy paper. However, they are printed on a light beige background which, while giving the older photos the appearance of antique sepia prints, is disturbingly anachronistic for photos of jet aircraft. The colors in the appendix are vivid and well reproduced.

Anyone who has an extensive library on Polish aviation will find most of the photos of military aircraft have been printed elsewhere. The Polish shelf in the SAFCH "library" extends for nearly 6 feet, so I've seen most, but not all of these photos elsewhere. However, the sections of ballooning, parachuting, and gliding contained many photos and much information new to this reviewer. In addition to the photos, the chapter on 'Aviation Sports' contains useful maps of all the important pre-WWI Polish flights (Orlinski's flight to Tokyo and back on a Breguet XIX in 1926, Skarzynski's flight around Africa on a PZL L-2 in 1931, Zwirko's path in winning the 1932 Challenge Cup in 1932, Skarzynski's 1933-flight across the South Atlantic in the RWD-5bis, and Bajan's path in winning the 1934 Challenge Cup). Add to these successes the fact that Poland won the Gordon Bennett Cup for Ballooning in 1933, 1934, and 1938, and that the first Lilienthal Medal was won by a Polish glider pilot in 1938, we see that the 1930's were surely the golden age of Polish civil aviation.

POLISH WING is an excellent photo essay on Polish aviation and should be appreciated by all enthusiasts except those with either extensive coverage of all aspects of Polish aviation or no interest in Polish aviation at all. A few copies of this book are available through the SAFCH Sales Service.

CANUCKS UNLIMITED

"This letter is a brief introduction to our first aviation title, *Canucks Unlimited: Royal Canadian Air Force CF-100 Squadrons and Aircraft, 1952-1963*.

"*Canucks Unlimited* is a graphic account in words and pictures of Canada's most famous post-war military aircraft, the Avro CF-100 Canuck. Between 1952 and 1963, over 600 CF-100s defended North America and Europe in 13 RCAF squadrons. *Canucks Unlimited* offers the readers a unique look at the men and machines which served in our defence at the height of the Cold War. This is a book filled with first-person accounts by fighter pilots and navigators, anecdotes, and lively historical descriptions everyone will enjoy.

"*Canucks Unlimited* is more than just another aircraft history. This lavish publication accurately conveys the 'reality' of all-weather interceptor flying during the fifties, detailing operational tactics and equipment, as (Continued on page 82)

THE VULTEE "VALIANT" IN LATIN AMERICA

For thousands of US and allied aviation cadets who knew no system other than the sequence of primary, basic, and advanced training, the Vultee BT-13/15/SNV "Valiant" series is recollected with warm memories for its unique peculiarities as an integral part of the path to full pilot status. But somehow, the trusty "Vibrator" invariably came in third-best behind the forgiving and modest PT's and the robust and war-like AT's. Implied mediocrity and challenges to its veracity dogged not only the Vultee series but the entire BT genre throughout most of its 17-year (1930-1947) life-span as an integral part of the US Army Air Corps/Force training formulae.

US philosophy was not a world standard and other major powers, both before and during WWII, openly questioned the need for a basic training plane. However, this reservation did not extend to the concept of a Basic-Combat aircraft which the European powers, especially, found most practical.

During 1938-39, recognizing that world-wide rearmament and the drift towards war would sharply increase the potential export markets for light combat aircraft and basic trainers, as well as that for basic trainers for domestic military use, Vultee developed the Model 51 "Valiant". The "Valiant", billed as a basic-combat or advanced-training aircraft, was powered by a 550 hp Pratt & Whitney R-1340-S1H1-G "Wasp" and carried two forward-firing 0.30 cal guns (with provisions for 375 rounds each) and one rear gun of the same caliber with 500 rounds. So far as can be determined, only one Model 51 was built, and its ultimate fate is uncertain.

Concurrently, Vultee fielded an essentially similar but unarmed and lower-powered version as the Model B54D "Valiant". An initial batch was ordered by the USAAC as the BT-13 with a contract being let using Fiscal Year 1940 funds. This was one of the largest contracts let by the USAAC, and it was, by far, the largest order for basic trainers to that time.

The BT-13 differed from the prototype in having fixed gear, with curious streamlined fairings (falling short of wheel "pants") and a 450 hp R-985-25 engine. Gross weight, lowest of the series, (and probably partially accountable for its somewhat greater popularity) was just 4406 lbs, compared with 4490 lbs for the BT-13A and 4624 lbs for the BT-13B.

Vultee had not ignored the export potential for the handsome, if somewhat typical "Valiant", although it was quickly apparent that foreign governments, in the main, could not afford a training aircraft of limited utility, no matter how modern or efficacious. However, numerous demonstration tours were conducted, and one resulted in a firm order from - of all places - Peru, with which we arrive at the opening chapter of our story.

PERU

The Cuerpo de Aeronautica del Peru (CAP) in 1940 was probably the best mainland South American candidate for a modern monoplane training aircraft. By the end of the 1930's, the CAP's Escuela de Aviacion Militar at Las Palmas was operating an incredible array of

French, Italian, German, British, and US trainers of mainly biplane or parasol configuration, some of which were more than 15 years old and of antiquated construction.

Available evidence strongly suggests that the CAP may have bought the single Model 51 multi-purpose "Valiant" mentioned in the introduction. As late as 1944, intelligence reports invariably cited one Vultee "Valiant" in addition to varying quantities of BT-13's and BT-13A's.

The CAP purchased 12 Model 54's which were virtually identical to USAAC BT-13A's, but retained some features of the earlier BT-13, with the highly probable exception that some form of armament provision was included. This is supported by the fact that an Air Order of Battle, dated 6 February 1942, included these 12 aircraft as "caza" (fighter) aircraft. This strongly suggests that Vultee probably assigned a different model designation to these aircraft.

At any rate, the 12 Model 54's were delivered in December 1941, ironically, prior to Peruvian eligibility for Lend-Lease procurement. They were finished in one of the most striking schemes to be worn by any Latin American military aircraft (Fig. 1).

As part of an overall reorganization and modernization of the CAP, the "Valiants" were assigned to a squadron-sized unit, the 28th Escuadron Entrenamiento at Las Palmas, where they formed the 3rd Seccion Entrenamiento. They received appropriate fuselage codes, 28+3-1 to 28+3-12, in the then-current CAP style (which had been heavily influenced by, of all things, a US Marine Corps and Navy Aviation Mission), and were the pride of the CAP.

With the coming of the war and Lend-Lease, Peru elected to include in its Lend-Lease accounts a request for additional "Valiants". Under Program PU-479, twelve BT-13A's were delivered by air from the San Antonio Air Depot in two batches of six each. The aircraft were valued at \$329,351.40 and included two spare engines shipped separately.

These aircraft were also assigned to the 28th Escuadron and were eventually painted and coded in the 28+3-13 *et seq.* series.

Attrition was normal, and by the end of June 1943, four were unserviceable due to accidents and/or spares unavailability. The highly coveted "Valiants" were also distributed to various elements of the CAP throughout the Republic, with one serving with the Comando de Vuela at Chiclayo, one with the 11th Escuadron de Caza (which was equipped with 11 P-36G's), one with the 24th Escuadron de Transporte of the 2nd Region Aerea at San Ramon, three with the 29th Escuadron de Combate, 2nd Region Aerea at Limatambo (including the single "Valiant"), 12 with the Escuela de Aviacion at Las Palmas, one assigned to the 35th Escuadron de Observacion, 3rd Region Aerea at Vitor, and one undergoing repair at the CAP depot. It may be that these aircraft were briefly coded in the series of their units of assignment. The three aircraft unaccounted for were probably unserviceable or attrited.

With the end of the war, and the resulting availability of large numbers of surplus aircraft (and before various aid programs became operative), the CAP sought to acquire

replacement aircraft for its losses, as well as augment its strength, cheaply. Three BT-13A's were bought from a batch of 15 held by the Caribbean Air Command in April 1946. By this time, the CAP had become the FAP and had implemented a new serialing system using blocks of three-digit numbers. These three aircraft became FAP 351, 352, and 353. Most of the surviving FAP "Valiants" were eventually re-serialized into this 300-block.

With the advent of the American Republics Projects (ARP), the action program of the Rio Pact, the influx of badly needed American aircraft into Latin American armed forces was standardized, with requirements established and tabulated for each participating nation. Peru's BT-13 strength benefited greatly, having dipped to 17 in July 1945 but rising to 33 (including the indefatigable "Valiant") by January 1949. Earlier, by October 1946, distribution of the then airworthy BT-13's had also changed, with one assigned to the 41st Escuadron de Transporte at Lima, and nine with the 28th Escuadron de Entrenamiento at Las Palmas. The remaining nine aircraft were used as "hacks", but were nominally assigned to the 28th Escuadron.

With normal attrition and crashes, FAP BT-13 strength tapered somewhat over the next 12 years, falling to 28 total by 1954 and 1956, when a number were released for civil use. By June 1958, 12 remained on hand, although utilization was very slight and this was, apparently, the final year of active-duty for the FAP B-13s.

BRAZIL

As an active Allied nation with vast natural resources and geographically strategic value to the United States, Brazil drew the lion's share of Lend-Lease aircraft diverted to Latin America. Brazil's Army Air Force (later the Forca Aerea Brasileira or FAB) was the first Lend-Lease recipient of "Valiants", and it was by far the largest user, receiving not fewer than 120 BT-15's. The BT-15 was nothing more than a BT-13A with very minor equipment changes and a 450 hp R-975-11 engine. To all but the most practiced eye, it was virtually indistinguishable from other variants. A total of 1693 BT-15's were built.)

As with most FAB aircraft during the war years, the Brazilian "Valiants" were assigned serials, by type, in a strict numeric sequence as they were entered into the inventory, commencing 1, 2, 3, etc. A number of these aircraft were, during the war, painted in a unique scheme consisting of olive drab fuselage and wings, white fin, rudder stripes in the normal national colors of green and yellow, and national star insignia in four wing positions. Serials (e.g. "08", "10") were carried both on the nose cowl and in approximately 8-10 in. numerals of black and on the fin.

For the most part, the FAB used its "Valiants" in more-or-less their intended role, although some unarmed coastal patrols and base hack duties were performed, as well.

A brief summary of the delivery schedule reveals a slow start but eventual mass buildup of the type in the FAB inventory:

Delivery	Number	Delivery	Number
March 1942	10	June 1943	8
May 1942	16	July 1943	34
February 1943	15	August 1943	8
March 1943	5	July 1944	2
April 1943	3	February 1945	3

May 1943

9

March 1945

7

Included in these deliveries were two "used" aircraft delivered in July 1944 (the only 1944 deliveries) for use by the FAB Mechanics Training School as instructional airframes. While these figures do reflect the ebb and flow of both the demand for trainers in the US and the political necessities, they may not be taken at face value. By August 1944, for instance, seven of the 108-odd aircraft programed (and charged) against the Brazilian Lend-Lease account had not shown up, and almost certainly joined the ranks of those which crashed along the way on their delivery flight. All Brazilian "Valiants" delivered by flight. Another six were unserviceable for various reasons. These shortfalls were made up by June 1946.

In 1945, the FAB instituted a new four-digit serial number system (which remains in use to this day) and all FAB "Valiants", including those attrited, were assigned a number retroactively. Serials 1000-1119 and up were used.

Post-war acquisitions under the ARP (American Republics Project) injected some relatively low-time (some almost factory fresh) BT-15's, allowing the FAB to retire some of its older machines of the type. Many were passed to civil aero clubs and even a few to the VARIG airline pilot training facility. Between 1946 and 1949, on-strength totals dropped from 107 to 93, and the FAB designation for the type changed to T-15. By April 1950, the total on hand was 92 including one assigned to a curious unit stationed at Cumbica, Sao Paulo state, called the "Composite Squadron", which included three P-47's and three T-6's also on its strength. Some measure of the attrition and surplusage which the strength figured of the period 1946-1950 do not reveal may be found in the fact that not fewer than 37 (and probably more) BT-15's were received under ARP from surplus sources, and the highest post-war FAB BT-15 serial known is FAB 1164.

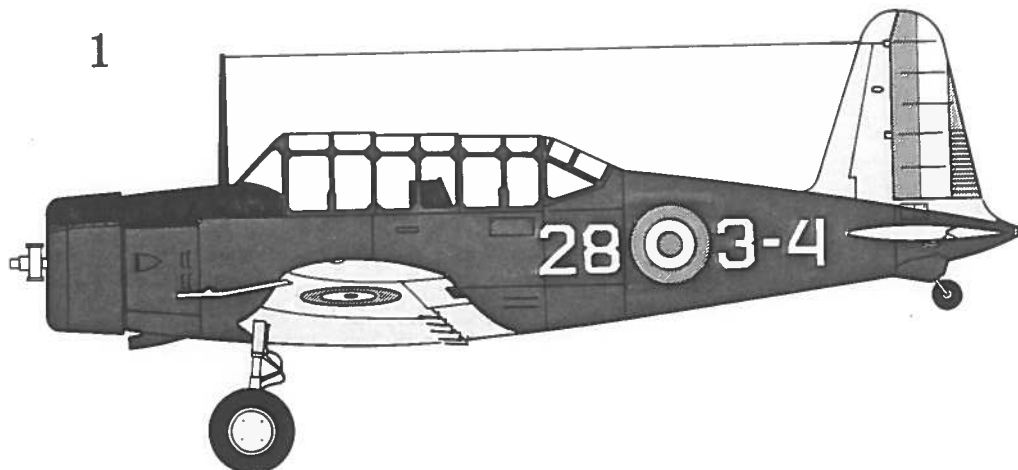
After 1950, FAB "Valiant" strength fell off rapidly, the majority of its training duties being assumed by large numbers of more capable T-6's. By 1954 only 40 remained, a figure that had not changed by June 1958, the last year that the type was shown on FAB strength.

Our illustration (Fig. 2) depicts FAB 1072, now preserved in immaculate condition at the FAB Museum, a rather mundane but typical color scheme for FAB "Valiants". Upon availability of further details of the more colorful example mentioned earlier, an additional drawing will be presented for SAFO readers. Finally, at least one (and probably more) FAB BT-15's carried some sort of unit insignia (FAB 1164 has been so photographed) but details of the coloring and significance of this insignia have yet not been uncovered.

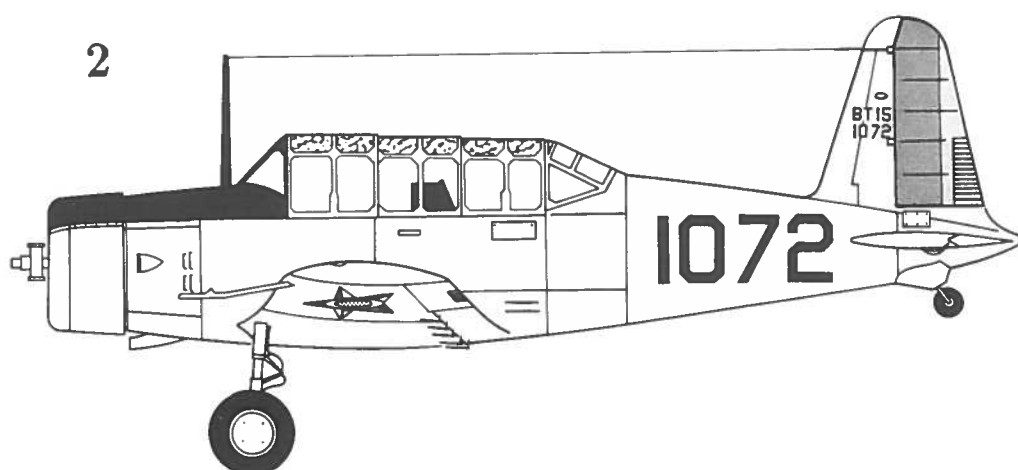
CUBA

It may come as a surprise to some readers to learn that Cuba was, chronologically, the second Latin American nation to receive "Valiants" under Lend-Lease. This resulted from two determinants: Cuba's proximity to the continental US (hence easier delivery arrangements) and the key position of the island of Cuba in the Eastern Caribbean Sea Frontier defense effort against Axis submarines.

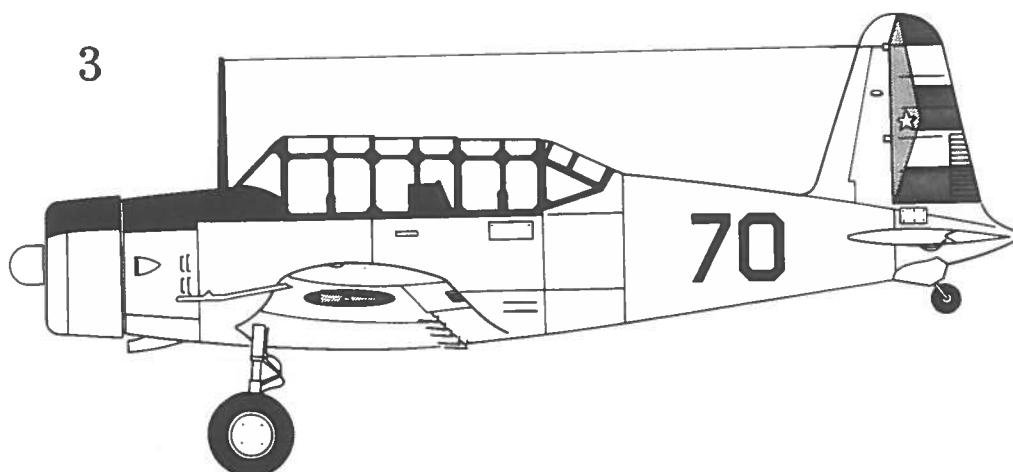
The Fuerza Aerea Ejercito de Cuba (FAEC), though a comparatively small force, was relatively well-rounded and efficient at the



VULTEE BT-13A, Fuerza Aerea del Peru, 28° Escuadron Entrenamiento, Las Palmas, Peru, October 1946. Reminiscent of pre-WWII USAAC colors, this BT-13 had a deep blue fuselage, yellow wings and tail surfaces, with a black antiglare panel and radio mast. The rudder was painted the red/white/red of the Peruvian flag, as well as the roundels which were carried in all six positions. Aircraft unit code 28+3-4 was in white.



VULTEE BT-15, Fuerza Aerea Brasileira. Aircraft is overall natural metal with black antiglare panel, radio mast, and markings. Wing insignia's are carried in four positions, with the letters FAB carried beneath lower right wing. Rudder was painted standard green/yellow colors used by Brazil. Note that the top portion of the canopy sections have been painted silver. This particular airplane has been preserved and is now on static display in the FAB museum at the Campo de Afonsos airbase, Rio de Janeiro.



VULTEE BT-13A, Fuerza Aerea Ejercito de Cuba [The Cuban Army Air Force], January 1949. One of nine BT-13's received by Cuba, overall natural metal with black antiglare panel, radio mast, canopy frames, and large serial number 70 on the fuselage sides. Pre-Castro Cuban national insignia in all four wing positions, with the rudder flash being based on the Cuban flag. Note that this aircraft has been fitted with a prop spinner.

beginning of WWII, and consequently its Lend-Lease allocations were very generous (for its size) but proportionate to its ability to contribute to the execution of the war.

Its previous experiences with medium-powered, all-metal, monoplane basic/combat trainers had been with a number of commercially acquired Curtiss-Wright A19R's, which were highly popular and heavily utilized by the FAEC in a wide range of roles.

So the addition of nine BT-13A's to the inventory in three increments of three each (September 1942, October 1942, and February 1943) was very welcome, in that it freed the A19R's and AT-6F's for other, more operational uses. Some surviving Stearman A73L's and other primary trainers - plus the "Valiants" - provided the entire FAEC training syllabus, with the move to more advanced aircraft, such as the AT-6F's and A19R's, etc. considered operational service.

FAEC serials for its nine "Valiants" were FAEC-66 through 74. Our illustration of FAEC-70 (Fig. 3) shows it as it appeared in the early post-war years. The aircraft is unique in that it sported a prop-spinner of indeterminate origins.

One "Valiant" was lost in a training accident on 12 November 1943 near La Violeta Sugar Central, and one other was written-off by July 1945. FAEC BT-13 strength stabilized as seven through 1950, last known year of usage, and the peak year was 1948 when not less than 830 training flights were undertaken, covering a calculated 264,187 air-miles. Most surviving FAEC "Valiants" are believed to have been surplused onto the post-war Cuban civil register where a number appear.

COLUMBIA

The Fuerza Aerea Colombiana (FAC) was the next recipient of "Valiant" trainers, receiving the first six of 18 BT-15's in October-December 1942. As with Cuba, this country received priority shipments based on its political and geographic value - in this case, proximity to the Panama Canal.

The FAC was a well-established air arm by the early 1940's, with a good standard of training and a fairly competent, but somewhat heterogeneous collection of dedicated aircraft.

The FAC's "Valiants", programmed under Lend-Lease Projects CM17 and CM93 respectively for 1942 and 1943 delivery, were initially stationed at the Base Aerea "Ernesto Samper" at Cali and grouped, as they arrived, into what eventually became known as the Escuadron de Entrenamiento Basico. In October 1943, 6 were temporarily assigned to Base Aerea "German Olano" for tactical training (alongside six AT-6C's) mainly for practice in formation flying with armed AT-6's.

FAC BT-15's carried a rather confusing series of serials, all of which were assigned, at varying times, according to what started as convenience and later converted to an ongoing numeric system reserved for trainers of all types. The first two, FAC-27 and 28 (ex-USAAF 42-1827 and 42-1828) were obviously influenced by their former US serials. However, unexpectedly, and against all odds, the next two to arrive were the former USAAF 42-2027 and 42-2028, which, to avoid confusion with the first pair, were presented as FAC-027 and 028. Then 42-1868 and 42-1869 arrived and became FAC-68 and 69.

Recognizing the beginnings of a problem if things continued this way, the FAC abandoned

these "convenience" serials and adopted its own serialing system for the "Valiants" (and other US Lend-Lease aircraft) in blocks of its own design. The remaining 12 BT-15's received three-digit serials in the 140 range and beyond; known examples being FAC-141 (written-off 7 October 1943) and FAC-147.

Attrition was somewhat more rapid than in some sister republics, mainly due to rather high utilization. By 1946, only 14 of the original 18 remained. These same 14 soldiered on until the decision was taken in 1951 to replace them entirely with the much more versatile AT-6, of which large numbers were available. Most airworthy examples were sold to Colombian citizens and several appeared on the early post-war Colombian civil register, though few survived for long.

Our illustration (Fig. 4) shows FAC-68 (ex 42-1868) as it appeared at Cali between 1944-49. It is thought that the serial may also have appeared on the upper right and lower left wing panels, and on the wing leading edge, both sides, midway between the undercarriage and fuselage.

BOLIVIA

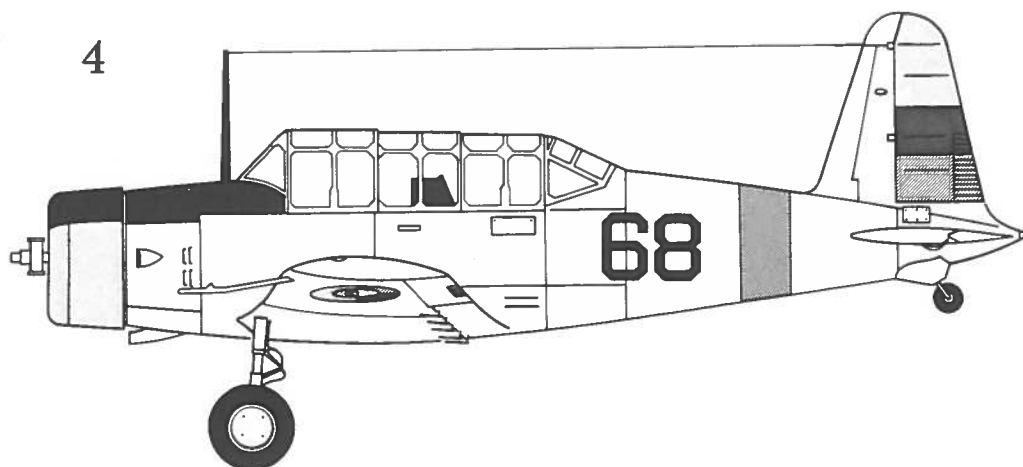
One of the most ironic aspects of Bolivian use of the Vultee trainer is the fact that the service did not want the aircraft which were more or less foisted onto the Fuerza Aerea Nacional when their requests for other, more war-like aircraft, were rejected (the requests included P-40's, additional Curtiss SNC-1's, and other aircraft capable of mounting some sort of armament). To make a long story short, the Bolivians were told, in effect, that the USAAF Mission knew what was best for them, and this early conflict colored FAB attitudes towards the "Valiant" for some years to come.

The Bolivians simply could not understand why an otherwise modern, comparatively high-powered aircraft was not provisioned to carry guns or bombs, a condition that had previously applied to virtually every aircraft procured by the service including trainers. This attitude was strengthened by a history of a series of missions from Europe, which had heavily influenced FAB attitudes and philosophy. However, the Allies needed both Bolivian tin and political solidarity in an area where German and, to a lesser extent, Italian influence were considered a potential threat. Thus, although its demands for P-40's and additional SNC-1's could not be honored, more than enough BT-13's were available and considered virtually ideal for Bolivia's needs.

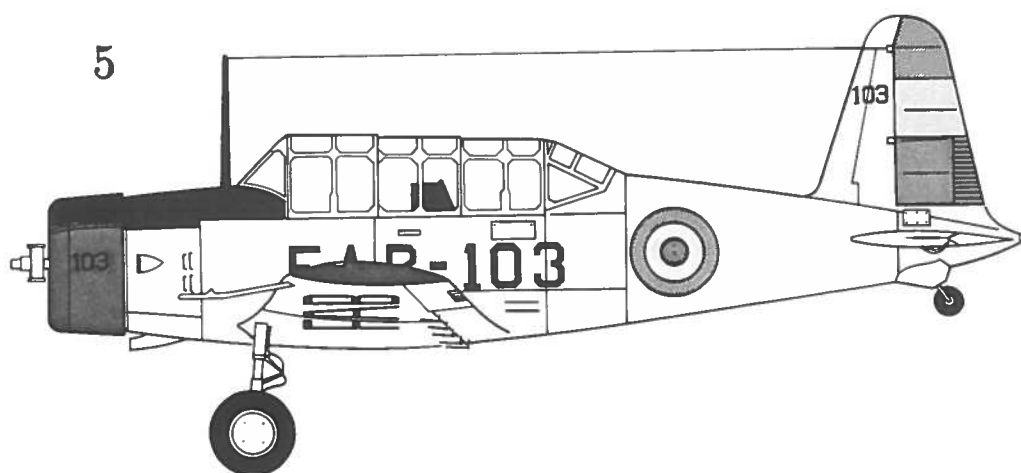
An initial batch of five BT-13A's were received in November 1942, followed by seven more in February 1943, all delivered by air out of Brownsville, Texas. These were all destined for Santa Cruz, where FAB training activities were centered, although for political reasons they were retained in a neat lineup at La Paz (El Alto) airfield for several months following delivery.

Transition to the "Valiants" was somewhat hesitant and not without incident. The initial cadre instructed in the use of the aircraft were, in the main, officers whose only other experience with "modern" aircraft had been with Curtiss-Wright 19R's which were acquired shortly before the war. One pilot, CPT Raul Valle, while concentrating on mastering the Valiant's strange controls and braking system, ran into a FAB Curtiss Sea Hawk at La Paz on 3 April 1943 and practically demolished the veteran fighter.

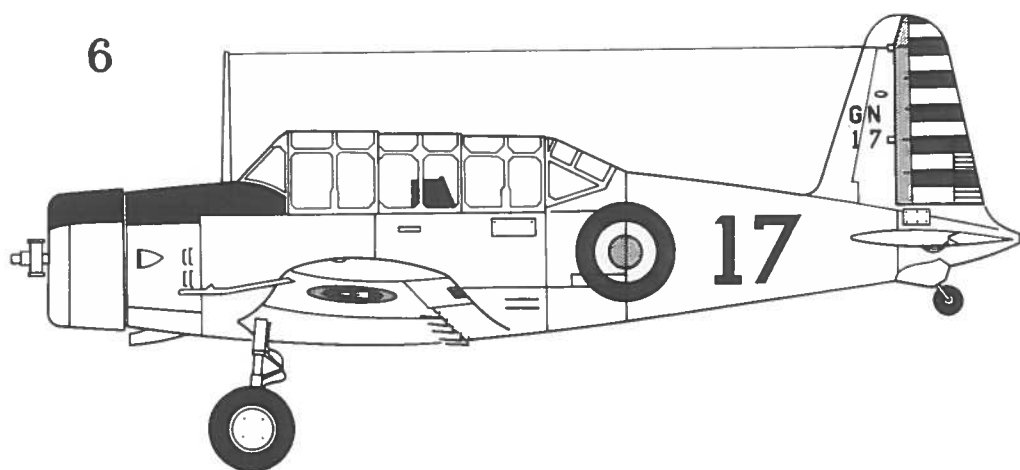
Once the aircraft were moved to Santa Cruz



VULTEE BT-15, Fuerza Aerea Colombiana, late 1940's. Aircraft is overall natural metal with yellow cowling and red fuselage stripe. Antiglare panel, radio mast, and FAC-68 serial number black. Colombian national insignia in four wing positions only, with the rudder stripes painted the yellow/blue/red of the national flag.



VULTEE BT-13B, Fuerza Aerea Boliviana, 2° Escuadron Entrenamiento, Cochabamba, Bolivia, December 1946. Aircraft is overall natural metal with dark blue cowling, wingtips, and tips of horizontal stabilizers. Antiglare panel, radio mast, and all markings are black. Insignia in four positions only, with red/yellow/green rudder.



VULTEE BT-13, Fuerza Aerea de la Guardia Nacional de Nicaragua [Nicaraguan National Guard Air Force], early 1950's. Aircraft is natural metal overall with a black antiglare panel. Markings are unusual in that they depict the earlier tricolor roundel on the fuselage, while the wings carried the later FAN markings. Rudder was painted as per the national flag, blue/white bars behind a red vertical stripe. All other markings are black.

and the efforts of the US Mission started being felt on the somewhat desultory training effort being put forth by the FAB, a grudging appreciation for the reliability and usefulness of the "Vibradores" emerged. This resulted in the Bolivian Government submitting an augmented Lend-Lease request for an additional 25 "Valiants", in this case BT-13A's which were flight-delivered in two large groups of 14 and 11 each in April and May 1942.

These aircraft, together with the 10 survivors of the 1943-43 batches, were organized into what might be described as two Operational Training Units and a Basic Training Unit. These were Escuadron de Entrenamiento No. 1 at El Alto (La Paz) with seven BT-13's and Escuadron de Entrenamiento No. 2 at Cochabamba and Escuadron de Escuela "Boqueron" at Santa Cruz with the balance of the airworthy machines.

Post war, nine BT-13A's were acquired in May 1946 for distribution to various Aero Clubs, but it is believed that at least a few of these found their way in and out of the FAB during the extreme internal turbulence experienced in the country in the late 1940's and early 1950's.

Largely because of this civil strife and the resulting purge and disdain for the professional armed forces, FAB attrition of all types during the early 1950's was extremely high, many aircraft literally rotting away, totally ignored, in the open. Affairs had reached the point where, by June 1954, only four BT-13's remained airworthy, one being assigned to the Basic and Advanced Flying School at Cochabamba, one other with the Air Academy and Primary Flight School at Santa Cruz, and two other flying miscellaneous duties as hacks. A fifth airworthy example was added, by building one complete aircraft up out of the hulks of several others, by December of that year.

Finally, by June 1958, only one BT-13 remained, somehow kept in airworthy condition at Cochabamba. Its final fate is unknown.

FAB serials for its "Valiants" apparently were not assigned for a considerable length of time, but they eventually received serials starting with FAB-100 and moving up to FAB-137 at least.

Our illustration (Fig. 5) of FAB-103, which for some obscure reason received permission to overfly Brazilian territory, is as it appears in February 1951.

NICARAGUA

The Latin American Lend-Lease program required considerable diplomatic finesse on the part of its US managers as virtually all recipients demanded more than they needed, or could use, and, of course, at the "earliest possible" time.

But hemispheric solidarity was viewed as essential, and it was found that even token deliveries, especially of aircraft, had a very positive influence on events. This system, with one neighbor watching the other, and feeling injured or shorted because of perceived inequalities, led to some very peculiar developments.

The early release, to the Fuerza Aerea de la Guardia Nacional de Nicaragua, of one BT-13A in December 1942 is a case in point. The aircraft, 41-22803, had originally been selected for delivery to Chile, and had in fact reached Brownsville, Texas, when the State Department intervened and saw to it that at least this token delivery was made to the

Somoza-dominated nation. This aircraft, ironically, happened to receive the FAN serial GN-13 and survived until 25 December 1943, when it suffered disabling damage.

Three more "Valiants", this time BT-13A's, were delivered in June 1944. One of these received serial GN-17 and the other two were also in the 'teens but have not yet been confirmed.

With the approach of the end of the war, large numbers of "Valiants" became surplus, and the FAN purchased two such aircraft, ex-Sixth Air Force aircraft, in the Canal Zone in June 1945 (as well as spares for its Lend-Lease acquired examples).

Another "Valiant" was added in September 1947, under unique circumstances. This aircraft was bought from a US citizen in Honduras (one Charles Colfelt) and the aircraft may have been registered there. Because of the tense situation then existing between Honduras and Nicaragua, the aircraft could not be flown out of Honduras ... officially. However, the aircraft took off 12 September 1947 for a "local" flight, became "lost" and "forced landed" in Nicaragua, where the FAN/GN promptly "bought" the "hulk".

Two more BT-13's (and five AT-6's) were acquired from a Miami broker in December 1947, but only after having been immersed in export-license problems and related difficulties. One of these "Valiants" was flown to Nicaragua by none other than the legendary Clevenger himself.

Two more BT-13's (the final two, for a total of 11) were acquired in 1949, by which time four of the earlier "Valiants" had been lost in a series of training accidents (one 25 December 1947, one 17 November 1948, one 18 June 1949, and one 6 July 1949). These post Lend-Lease "Valiants" were serialized in the range GN-29 to 36, with 29, 30, 32, and 36 positively identified.

Following 1949, FAN "Valiant" strength and utilization dropped rapidly, three remaining by June 1954 and two by December 1956 the last known report by the type.

Illustrated is one of the initial Lend-Lease BT-13's, GN-17, which survived as late as 1951, as it appeared that year at Las Merced airport near the Capitol.

PARAGUAY

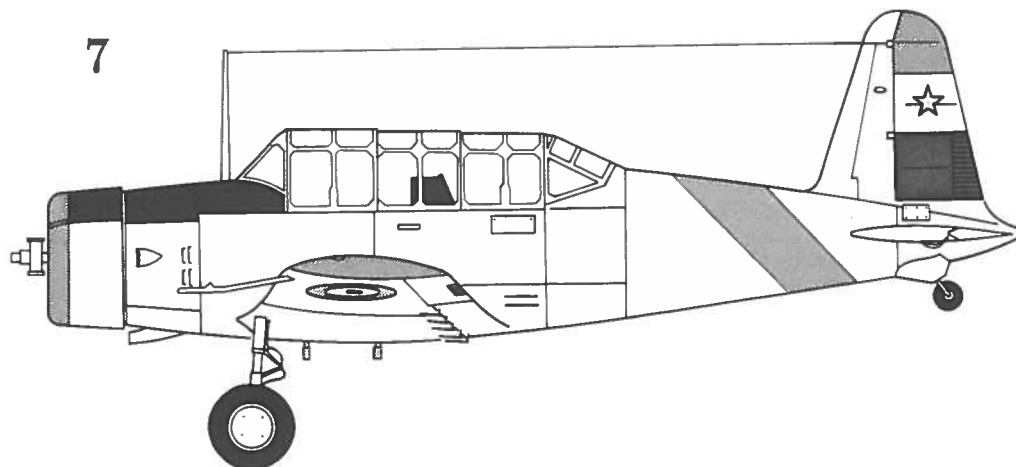
In keeping with the US policy noted previously of making at least token Lend-Lease deliveries to each of the mainland South American nations as early as the supply-and-demand situation would allow, Paraguay followed next in order after Nicaragua, receiving its first five of 10 BT-13A's in December 1942. The second half of the allotment arrived in January 1943, these aircraft being shipped from Downey, California and Brooklyn, New York, one of the few consignments not air-delivered. (The first five and been air-delivered.)

These "Valiants" were delivered under Lend-Lease Project PG-24. While the first five were heavily utilized consistent with availability of rare aviation gasoline in Paraguay, the second batch, which required assembly following the long, complicated freight delivery upriver, were only erected at a snails pace. One still remained crated as late as August 1944.

The FAP "Valiants" were all concentrated at Campo Grande field, near Asuncion, the capitol. By April 1944, the nine airworthy aircraft were no longer being flown at all.

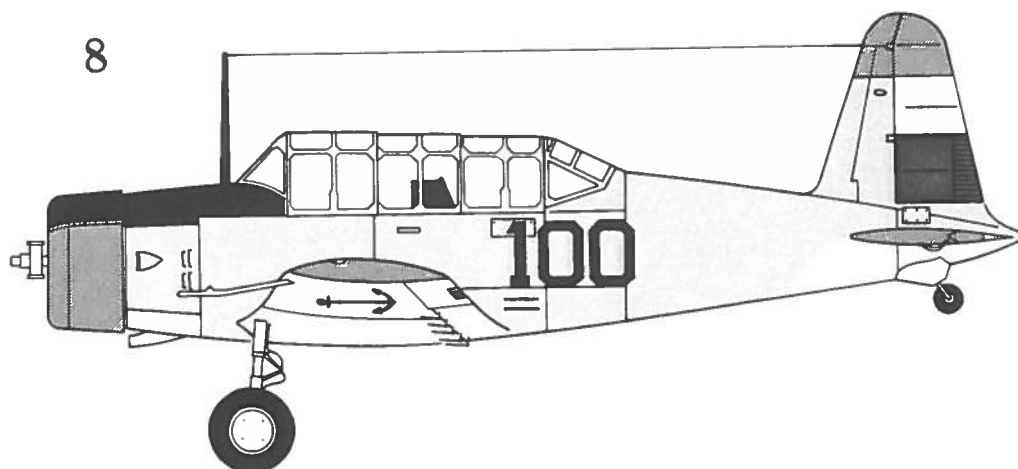
FAP "Valiants" initially retained abbreviated USAAF serials on the fin, although

7



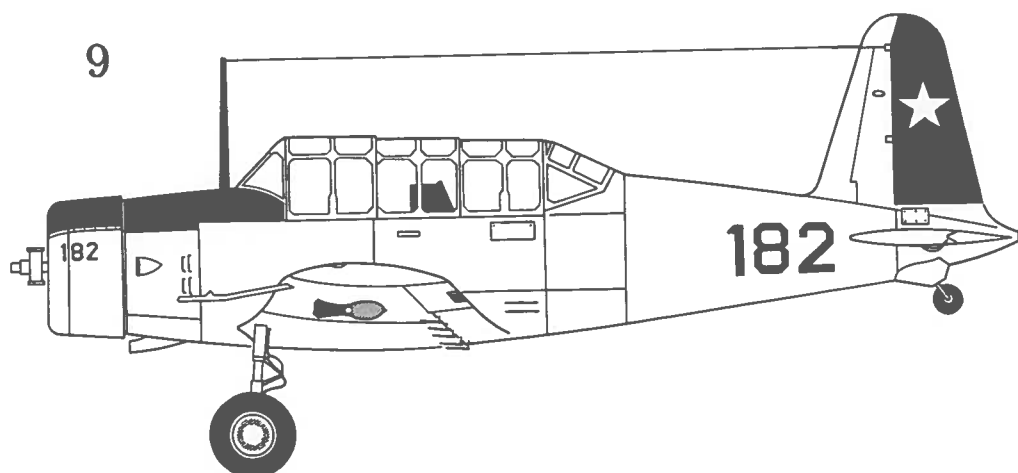
VULTEE BT-13A, Fuerza Aerea Paraguaya, August 1959. This aircraft is overall natural metal with red cowl ring, fuselage stripe, and wingtips. Rudder was painted red/white/blue with the yellow 'Star of May' on the white stripe. This particular aircraft was fitted with a very primitive bomb rack attached below the fuselage centerline. Roundels are believed to be beneath left wing and on upper right, with the aircraft's serial number (unknown) carried on the upper left and lower right wing panels. Antiglare panel is black.

8



VULTEE BT-13, Servicio Aeronaval de la Armada del Paraguay (Paraguayan Naval Air Service), 1959. One of the BT-13's presented to Paraguay by Argentina, it remained in the delivered scheme of light grey over white (lower wing, tail surfaces, and rear fuselage only). The cowl, wingtips, and horizontal stabilizers are red, with black antiglare panel and radio mast. Rudder was painted red/white/blue as the FAP aircraft, but without the yellow star. Paraguayan Naval Aviation anchor was carried in all four wing positions.

9



VULTEE BT-13B, Fuerza Aerea de Chile, December 1946, when in use with the Escuela de Aviacion Capitan Avalos. Overall natural metal, black antiglare panel, radio mast, and FAC serial number. National insignia was in all four wing positions, and rudder was painted blue with white star superimposed. Note red circle centered on the wheel cover.

these may have been replaced by local FAP serials for a short period after the war. It is also possible that eight of the aircraft (those surviving by September 1945) may have worn quasi-civil registrations in the ZP-G... range after they were seconded to the government-owned, FAP-operated LATN airline where they were employed principally as mail carriers.

FAP use of its BT-13's was desultory, at best, and they never really found a place in the air arm that seems to have peaked during the Chaco War of the 1930's.

By 1947, six remained, and by August 1959, only two, although the number had dipped to only one airworthy example in December 1956. Alleged use of its two airworthy BT-13's in 1947 during the armed insurrection against the government, with crude armament installation (see Fig. 7) remains unsubstantiated to this writer's satisfaction. The AT-6's is a more likely candidate, although a bomb rank of some sorts was known to have been fitted under the centerline of one "Valiant". During this abortive revolution, during which the FAP split into two factions, armed trainers were used against the other side's population centers and for "strategic" bombing. Since the FAP only had three AT-6's at this juncture, and few airworthy aircraft of any type, use of the BT-13's cannot be discounted, but factual details would be welcome.

Another Paraguayan service, the Aviacion Naval Paraguaya, acquired at least one (and possibly two) "Valiants". The one known aircraft, which arrived in Paraguay in 1959, was an ex-Argentine Navy BT-13 of unknown subtype originally operated by the Argentine Navy Mission to the Armada Paraguaya. It quickly fell into disrepair and was seldom flown. The serial, 100, is believed to be an invention applied only after the aircraft was no longer airworthy. It reportedly was kept, in pristine condition, as more or less an instructional airframe. Readers should be aware that our drawing (Fig. 8) is provisional being based on a verbal report and not on actual photos or personal observation by the author. It is included only because of its unique character and coloring.

Finally, a number of sources have cited Paraguay as having operated SNV-1's, the US Navy version of the Vultee Model V74. (All 1350 Model V74's were, in fact, Army BT-13's transferred to the Navy and given BuA numbers.) There is no evidence to support the use of SNV-1's by Paraguay or any other Latin American nation, with the possible exception of the Dominican Republic (which see). The cited reports were probably generated by a US Navy Attache's report regarding the Paraguayan Navy "Valiant".

CHILE

One of the largest - and most enthusiastic - users of the "Valiants" in Latin America was the Fuerza Aerea de Chile, which, due to supply and political problems, did not receive the first of its 61 Lend-Lease BT-13's until April 1943 under Projects CL-394, 394A1, and 394A2. These projects included 16 spare engines and one aircraft (42-42886) which crashed on its delivery flight in the mountains of Costa Rica on 26 July 1943 and was not recovered.

Chile welcomed the "Valiant" for a number of reasons, not the least of which was its utter disappointment with and scandal involving a number of European (particularly Italian)

training and two-seat attack/reconnaissance aircraft purchased at considerable expense just before the war. Secondly, the FAC had, by 1943, decided to "americanize" its training syllabus, and was happy to receive - finally - enough good quality, reliable, dedicated aircraft with which to carry out its well-founded plans. The FAC was possibly the most professional air force in Latin America at the beginning of WWII, but it was handicapped by equipment choices that were motivated, in large part, by ideological decisions.

From the time of its entry into the inventory until at least 1959, the "Valiant" was seemingly everywhere in Chile. It was second of three links in a classic USAAF-style training program (PT-19/BT-13/AT-6) that trained several complete generations of FAC pilots, and also found itself in the news by being, in a number of cases, the "first" aircraft to alight at new airfields throughout this geographically unique nation. It carried out training and survey duties for LAN, the national airline, which was operated as a virtual branch of the FAC up through the late war years, and it also served to "fill-out" the rosters of a number of operational first-line FAC units.

With the end of the war, the FAC almost immediately surplused 30 of its oldest "Valiants", passing them to Government-encouraged municipal flying clubs. These aircraft consisting mainly of the 24 BT-13A's received between April and July 1943 - the balance of the Lend-Lease deliveries being BT-13B's received between April 1944 and November 1944. Some of these latter "Vibrators" survived to outlive their service brethren.

FAC "Valiant" serials were in the range FAC-130 to 191, and were, so far as can be ascertained, never marked other than shown in our illustration (Fig. 9). The only variations noted were in the size of the national insignia on the wing (some being quite large, early-on) and in the dimensions of the white star on the blue rudder. Sole concession to "special" markings were found in the aircraft assigned to "operational" units which, occasionally, carried the distinctive insignia of the assigned unit. The following guide will aid the serious researcher in pinpointing such possibilities. In all cases, the units consisted of mixtures of various aircraft types, some quite unlikely! These listings are for 3 December 1946, January* or April** 1949, as indicated:

HQS, FAC (El Bosque)	- 5
Grupo 1 (Iquique)	- 6
Grupo 2 (Quintero)	- 10 (7*) (6** by this date was classified as a fighter-bomber unit with 14 T-6's as well)
Grupo 3, III Brigada Aerea (Temuco)	- 5 (4*)
Grupo 4 (La Colina)	- 4 (plus 7 AT-6, 9 A-24B) (2** plus 8 AT-11 and 2 AT-6 and by this date a bomber unit!)
Grupo 5 (Puerto Montt)	- 5
Grupo 6 (Punta Arenas)	- 5
Grupo 10	- 8** (plus 11 AT-6, 6 C-47, 1 C-45)

Grupo de Transporte No 1 - 5* (plus 11
AT-6, 5 C-47,
8 AT-11)

Escuela de Aviacion
"Capitan Avalos" - 15

Judging from the number of aircraft known to be on hand at the above dates, it is apparent that either additional quantities of BT-13's were acquired (probably through American-Republics-Project channels) or some aircraft were recalled from aero-club use.

The FAC finally retired its last seven airworthy "Valiants" in 1959 when they had, through cannibalization for parts, reached the ends of their useful lives. One, marked FAC-164, is now on display, in fair condition, at Santiago.

GUATEMALA

Guatemala's air force, the Fuerza Aerea Guatemalteca, shares with Mexico the distinction of being the only other Latin American country (excepting Venezuela) to operate both BT-13 and BT-15 versions of the "Valiant".

Like its sister Central American Republics, Guatemala received a nucleus assortment of service types with which to mount a modest modernization and training program commensurate with their needs and capabilities. In the case of the FAG, five BT-15's were delivered, two in April and three in May 1943 under Lend-Lease Project GT-26. These aircraft received FAG serials 35-39, and our drawing (Fig. 10) shows FAG-39 in a post war scheme. Earlier they had carried essentially similar markings, but on a natural metal finish.

One aircraft was lost on a training flight while piloted by LT Enrique Secaira on 11 April 1944. Further attrition brought total effectiveness down to three by May 1946 and two by January 1949.

Since the FAG's T-6's were used as both advanced trainers and operational types, the "Valiants" were responsible for most of the "advanced" training duties. In order to mount any sort of training program at all, it was recognized that additional "Valiants" would be needed. Accordingly, at least three BT-13A's were acquired through civilian dealers in 1949 and 1950. At least one of these had been on the Guatemalan civil register as TG-BAJ prior to donning FAG warpaint. These, combined with surviving BT-15's, soldiered on until at least June 1954 when only three remained of all types.

MEXICO

In June 1943, close on the heels of the Guatemalan delivery of BT-15's, the Fuerza Aerea Mexicana received flight of 10 BT-15's from Kelly Field. Mexico and Guatemala (together with Venezuela) share the distinction of being the only Latin American nations to use both BT-13's and BT-15's, but Mexico went one better by receiving all three basic versions of the "Valiant" - BT-13A's, BT-13B's, and BT-15's - and all under Lend-Lease.

The BT-15's, which were delivered factory-fresh in serial number order (42-41801 to 41810) were serials by the FAM through the simple expedient of using the last three digits of the USAAF serials, i.e. 801-810 prefixed by a three-letter acronym indicating the function and manufacturer of the aircraft. In the case of the BT-13's and -15's, this prefix was "BEV" (for Basico Entrenamiento Vultee). For all

intents and purposes the FAM freely intermixed variants of the "Valiant", finding little to distinguish them.

By October 1943, the FAM had also received its first 10 BT-13A's. By June 1944, 18 of the "BEV's" were concentrated at the Escuela de Aviacion Militar at Guadalajara, while one other was stationed for liaison purposes at the FAM's Mexico City base (one other had been w/o on 2 July 1943).

An additional batch of 18 BT-13A's was flown down in late October 1944. These were followed in January 1945 by not fewer than 20 BT-13B's. Because of the multitude of USAAF serial blocks from which they were drawn, these "Valiants", were eventually assigned FAM serials BEV-401 through 448, although evidence indicates that some early machines carried various presentations of their former USAAF serials for some time.

Following WWII, the FAM, with a limited budget and fluctuating manpower needs, found that utilizing their "Valiants" presented ever-increasing maintenance problems; attrition and hard use slowly and inexorably took their toll. By June 1954, only six remained airworthy at the EAM at Guadalajara, and these were flying less than 10 hours per day cumulatively. One of these aircraft is illustrated as Fig. 11. Fiscal hard times for the FAM bred necessity in the shops and by June 1957 five airworthy examples were still on hand, although this was the last reported year of use.

A camouflaged BT-13A (N67208), bearing Mexican national insignia, was seen at Van Nuys, California, in 1972, replete with an R-1340 engine. Despite appearances, this aircraft (41-11297) was not an FAM "Valiant", merely the result of a private US owner with a sense of humor. However, it was close, 41-11296 was an FAM BT-13A.

EL SALVADOR

Tiny El Salvador was another Central American state to receive gratuitous shipments of Lend-Lease trainers, and the Fuerza Aerea Salvadorena duly took delivery of three BT-13A's in July 1943, one of which received the FAS serial "42". Our illustration (Fig. 12) is of one of this initial batch.

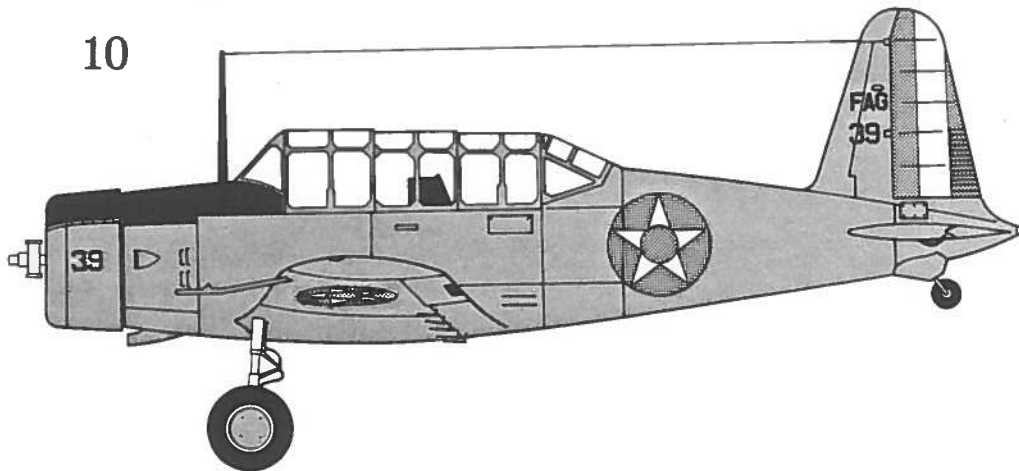
By April 1944 two of these were unserviceable - mainly because of very poor training standards and discipline exhibited by some of the FAS cadets.

With the end of the war and initiation of ARP (American Republics Project) allocations, the US mission to the FAS requested urgent offset of three additional BT-13A's, as FAS training was effectively at a standstill. These were, in fact, delivered in September 1947 under ARP #71018. Serials for these aircraft are unknown, but they were in the range between FAS-43 and 56.

By 1949, new equipment for the FAS was essential, and LTC George Hollinsworth, Chief of the USAF Mission, assisted the FAS in contracting for six additional BT-13A's which had been surplused from the USAF and renovated by Consolidated-Vultee. Colonel Hollinsworth reasoned that the surplus BT-13's were nearly the perfect choice for the FAS, based on cost, availability, and service experienced with the type. The six aircraft, serials 57 thru 62, were flight-delivered between 4-7 July 1949, accompanied by the FAS's sole C-47, FAS-101.

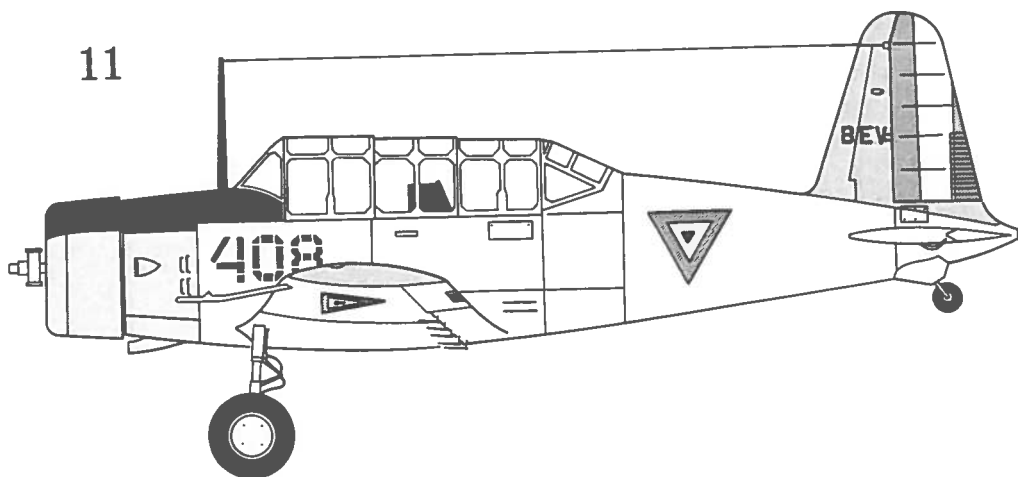
Attrition continued to take its toll, and by June 1954, after losing two "Valiants" in fatal accidents in 1950 - and a temporary grounding of the type until a thorough check by USAF

10



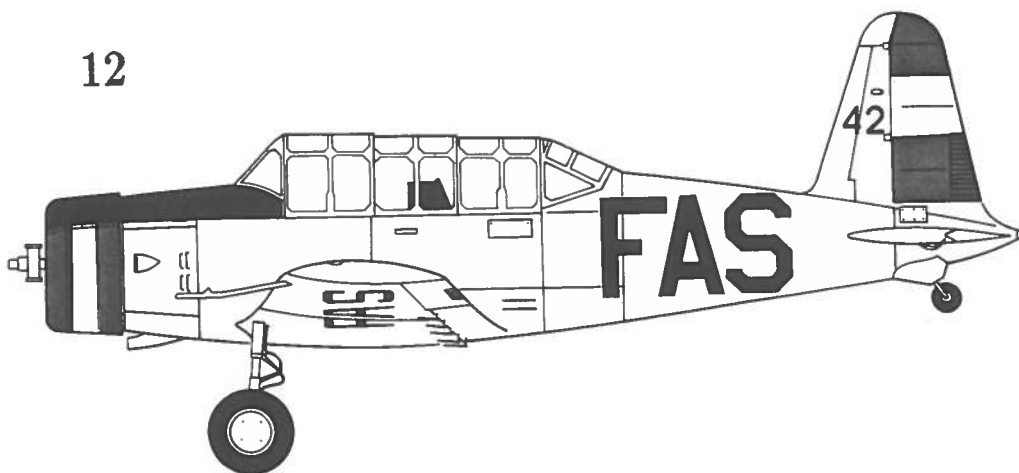
VULTEE BT-15, Fuerza Aerea Guatemalteca, June 1954. Aircraft was painted overall dark grey with a black antiglare panel and radio mast. Guatemalan national insignia was in all six positions, serial FAG 39 in black.

11



VULTEE BT-13A/B, Fuerza Aerea Mexicana, Guadalajara, Mexico, 1945 circa. Assigned to the Escuela de Aviacion Militar, the aircraft is overall natural metal with yellow cowling and forward fuselage, wingtips, and vertical stabilizer. The rudder and national insignias were the standard green/white/red colors of the FAM, the triangles being in all six positions. Antiglare panel and radio mast were flat black. Aircraft serial, 408, was of the stencilled type on the forward fuselage.

12



VULTEE BT-13A, Fuerza Aerea Salvadorena, 1948 circa. The aircraft is overall natural metal with dark blue/white/blue rudder bars and cowling, with the national roundel on the upper left and lower right wings. The very large FAS letters on fuselage, bottom left, and upper right wings was black. Note no radio mast or antenna.

Mission personnel - only five remained airworthy, and they were described as in "poor" condition. Only one remained airworthy by June 1958, although the hulks of the remaining intact examples were moved by the FAS to the field of San Miguel, where they could still be found in 1969 as decoys during the "Soccer War" with Honduras. The carcass of one BT-13 could still be seen in the FAS cantonment at Illopango as recently as 1971.

HAITI

The Corps d'Aviation 'Haiti, a corps of the Garde d'Haiti, was created as a result of WWII, and was thus the youngest, and smallest, air arm to receive "Valiants" under Lend-Lease.

The Haitian Air Corps was, not surprisingly, largely a training organization and the mix of equipment provided under Lend-Lease reflected this. However, in spite of its youth, the men of the CAH managed to mount some basic coastal patrols as well as mail- and passenger-carrying operations before the end of the war.

Together with Douglas O-38E's, AT-6's, and Taylorcraft L-2K's, the CAH received three BT-13A's, all flight-delivered in mid-August 1943. These aircraft retained the last three digits of their USAAF serial as their CAH serial, e.g. 819, 788, and 789.

Haitian use of the "Valiants" is a classic case of how even a relatively minor maintenance problem, by US or Western standards, can be completely disabling in a setting where spares support and knowledge of supply procedures are unknown. In May 1944, "Valiant" 788 went unserviceable due to a broken tail wheel assembly. The aircraft remained unserviceable as late as May 1946!

CAH utilization of its "Valiants" was modest, and peaked during the first year following delivery when CAH-788 accumulated 46.45 hours of flight, while CAH-789 flew only 22.53 hours and CAH-819 only 33.53 hours.

By May 1946, only one BT-13 was airworthy, but US-mission support returned one other to airworthy status, and these two remained on strength until the second half of 1954 when they were finally grounded as unsafe to fly.

Our illustration (Fig. 13) shows aircraft 819 shortly after delivery.

ECUADOR

Ecuador, had it not been for its claim on the Galapagos Islands, probably would not have benefited from US Lend-Lease deliveries as richly as it actually did. Shipments, although fairly late compared to neighboring states, were generous relative to the size of the service and its ability to effectively use the aircraft.

The Fuerza Aerea Ecuatoriana received a total of 12 "Valiants". all BT-13B's, under Project ED-32 in April and May 1944. These aircraft received FAE serials 50 to 61.

FAE maintenance capabilities were very limited, and at this juncture, fell below even those of other Latin American services, some of which operated on what amounted to a "throw-away" standard.

All 12 remained on strength by November 1946, but utilization was sporadic and there was not much enthusiasm for the "Valiant" amongst FAE cadre or students. Our drawing (Fig. 14) depicts FAE-51 as it appeared in November 1946 at Quiot.

Chronologically, the Fuerza Aerea Venezolana or, as it was called in 1944, Sericio Militar Venezolana, was the next Latin American nation to acquire "Valiants" through Lend-Lease. Ten BT-13B's arrived by air during July 1944 under Project VZ-147.

Serials of the Lend-Lease delivered "Valiants" are unclear, although it was FAV practice at the time to serial aircraft of the same type in a strict numeric sequence commencing 1, 2, 3, etc. Later, it is known that the aircraft carried codes CT-1 through at least CT-20 (changed later to ET-1 through ET-20). Our illustration (Fig. 15) shows ET-4 as it appeared when moved into the FAV Museum at Maracay.

Following the war, the Venezuelan Government bought from the Foreign Economic Administration (FEA) in the Canal Zone two batches, totaling 15 aircraft described as BT-13A's. These aircraft, in fact, were a mixture of BT-13A's and BT-15's, and caused some confusion when integrated into the FAV and the National Civil Aviation School. The latter organization received at least two aircraft and possibly as many as five.

The FAV utilized its "Valiants" in the classic basic training mode, as step two in the PT-19/BT-13/AT-6 triad, assigning them to what was called the Escuadron Entrenamiento, although by December 1946, two were also being used as "hacks" by operational units. Losses to training accidents were comparatively rare, known incidents occurring on 22 July 1946 and around 7 July 1949. By April 1950, 19 were still with the FAV, of which 16 were still with the Escuadron Entrenamiento and three with a tactical (reconnaissance) unit.

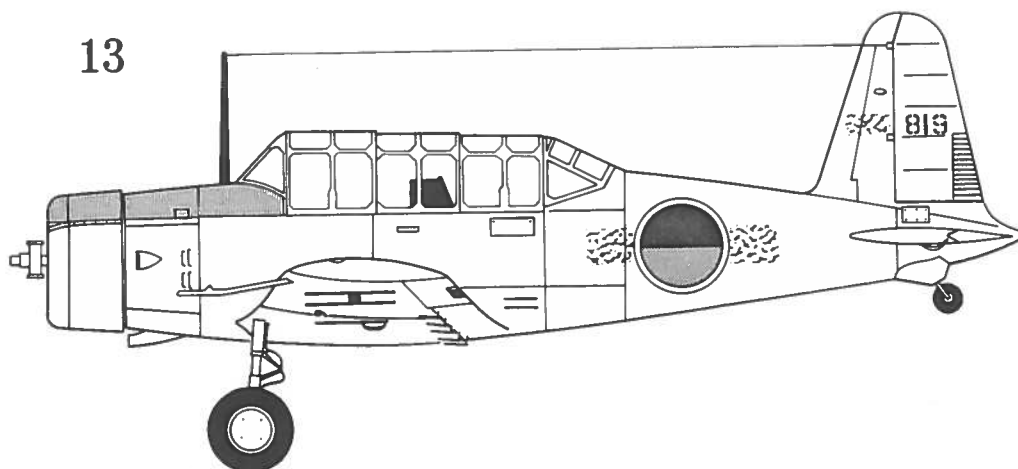
The FAV decided to surplus its "Valiants" starting in May 1956 when at least three of the aircraft acquired from the FEA passed to the civil register. The last known airworthy example, an aircraft (42-90648) originally delivered 28 July 1944, was surplused in October 1959 becoming YV-T-LTN on the civil register.

One source cites an FAV BT-13 with the "modern" serial FAV-6006, but this is considered extremely unlikely, as the modern, random, four-digit serial system did not come into use until the mid-1960's. This serial may have actually belonged to an AT-6.

DOMINICAN REPUBLIC

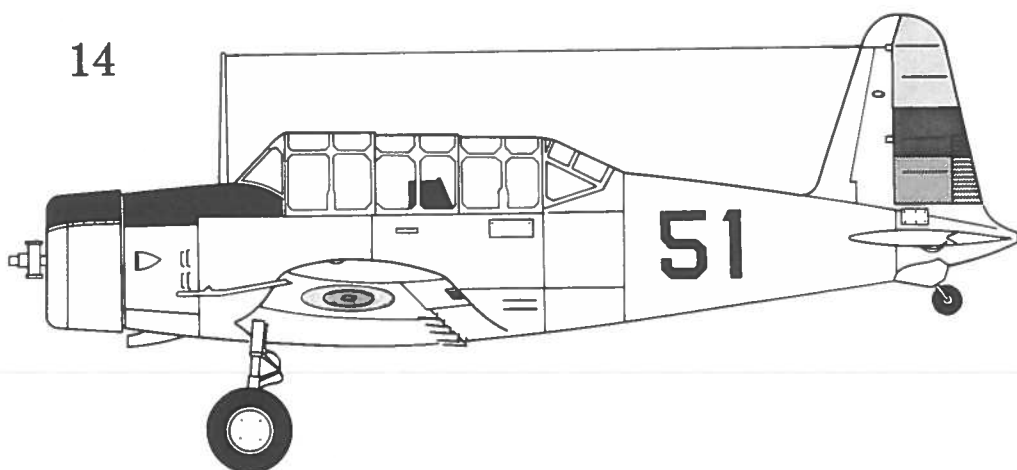
Of all Lend-Lease "Valiant" deliveries researched by your author, the three aircraft delivered to the Cuerpo de Aviacion Dominicana pose the most unanswered questions. The only thing that is certain is that three aircraft were received, one, for some obscure reason, reportedly in September 1943 and the other two in late August 1944 under Lend-Lease Project DR-94. A complete screen of all USAF Form 1 cards for "Valiants" does not reveal any aircraft offset for the Dominican Republic! The issue is further clouded by an Office of Naval Intelligence (ONI) report which recounted a mid-air collision between "two Dominican Air Corps 'SNV-1's'" on 28 November 1944 in which one of the aircraft was destroyed and the other severely damaged. Thus, your author has considered the possibility that the three aircraft delivered were offset Navy "Valiants" accessions (the FAD had received a Piper AE-1 in this manner) but records of the Lend-Lease Administration make no mention of any SNV-1's

13



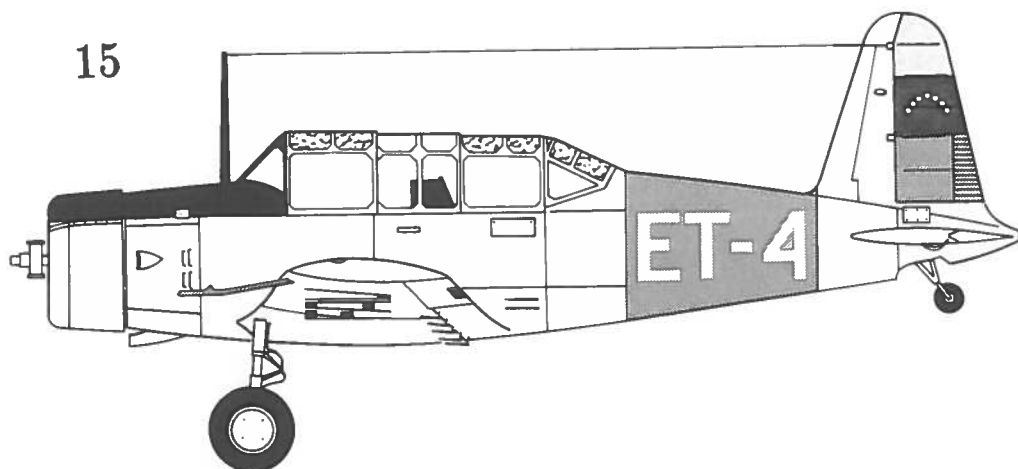
VULTEE BT-13A, Garde d' Haiti, August 1943. Upon receipt of their aircraft, very little was done to the aircraft. The bars of the USAAF insignia were rubbed off and the Haitian roundel of the Corps d'Aviation d'Haiti overpainted the star. The Haitians also retained the last three digits of the USAAF serial number [42-88819] by removing the first three numbers, and the large black letters "G d' H" were carried across the bottom of the wings. Aircraft overall natural metal other than the OD antiglare panel and black radio mast.

14



VULTEE BT-13B, Fuerza Aerea Ecuatoriana, November 1946. Aircraft is overall natural metal, with a black antiglare panel and number 51. Roundels were in four positions only, and the rudder was painted the yellow/blue/red of the Ecuadorian flag.

15



VULTEE BT-13B, Fuerza Aerea Venezolana, FAV Museum, Maracay, Venezuela. Sole survivor of the BT-13's and BT-15's acquired by Venezuela, this museum display aircraft is overall natural metal with black antiglare panel and radio mast. Rear section of fuselage is red, with it's code letters ET-4 in white. Rudder colors of yellow/blue/red are based on the Venezuelan flag. Note that the tail wheel fairing has been removed, canopy frames have been modified, and the top portion of the canopy glass has been painted silver.

going to any Latin American nation!

At any rate, FAD "Valiant" strength stood at two aircraft (one of them unserviceable) by March 1946, but was increased to six the same year when one was delivered under ARP (American Republics Project) and three more were purchased surplus. Up until the time Trujillo commenced his massive buildup in 1949-50 as a response to the threat by the mercurial "Caribbean Legion", the AMD was a very modest force with limited objectives, and was not on a par with the air corps of neighboring Haiti.

In 1948, 1949, and early 1950, however, the AMD was expanded to become one of the largest and potentially most potent air forces not only in the Caribbean, but in the whole of Latin America. This buildup included a massive infusion of trainer types, including at least 21 BT-13A's and B's, to produce native Dominican pilots to replace mercenaries who manned the tactical types in the meantime.

This training program, while intensive and carried forth with enthusiasm, was not without cost. One "Valiant" was lost in 1948, four in 1949, one in 1950, two in 1951, five in 1952, five in 1953, and 11 in 1954. Many of these were returned to service after repairs, only eight aircraft being complete write-offs.

FAD serials assigned, commencing with the buildup of the late 1940's, were FAD-1201 to 1220, and possibly slightly higher. Our illustration (Fig. 16) shows FAD-1200 as it appeared on 18 October 1952 when it suffered considerable damage at the hands of 2LT Juan Bautista Tejera Lopez. It was subsequently returned to service.

By June 1954, the AMD/FAD still counted 16 BT-13's on strength. Although paraded in impressive lineups for inspectors and visiting dignitaries, they were not all air-worthy. The "Valiants" remained nominally on the FAD inventory into the early 1960's, but the aircraft were "counters" only and they very seldom flew during their final ten years before being scrapped.

This completes the list of Latin American countries that received "Valiants" under Lend-Lease. Other countries that operated "Valiants" were Honduras, Argentina, and Panama.

HONDURAS

Contrary to many previously published reports, Honduras did not receive BT-13's under Lend-Lease. The was because, at the outbreak of the war, the FAH was relatively well off in terms of equipment.

By 1945, when the FAH was in need of re-equipment, surplus BT-13's were not only cheap and plentiful (their chief qualifications from the FAH's viewpoint) but they were also rather fairly efficacious as a type as well. Thus, in late 1945, nine FEA-surplus BT-13A's were purchased - a 10th bring added in February 1948 from a civilian owner. These aircraft received FAH serials 51-60.

Known losses occurred in March 1947 (c/n 58) and March 1948. By June 1954, the total on hand had dropped to four airworthy aircraft; this number remained unchanged through June 1957. However, only one remained by June 1958 (the other two having been put out to pasture and occasionally scavenged for parts) and this final aircraft, FAH-60 (our drawing subject, Fig. 17) was finally retired on 12 June 1960 with a reported 4300 hours on the airframe. Following its retirement, FAH-60 was painted yellow overall with Honduran-blue cheatlines

and detailing, and it was put on display at Tegucigalpa.

The color scheme carried by FAH-60 is not typical. The majority of FAH "Valiants" carried the standard insignia plus service numbers (in approximately 12-inch numerals on the fin) on a natural metal finish.

ARGENTINA

Argentina did not benefit from the Lend-Lease Program (nor from its successor, the ARP), primarily because of its pro-Axis, totalitarian stance. As a result, aero-historians can only ponder what "might have been" had the political climate been different in Argentina during the 1940's.

For political and budgetary reasons, the Argentine Naval Aviation Command (Comando de Aviacion Naval Argentina) did not benefit, as did the Argentine Air Force, from indigenous production of the FMA I.Ae. DL-22 training aircraft. By 1946, the CAN was in desperate need of re-equipment. Especially needed were modern trainers, since most of those in service were 1935-vintage biplanes or worn former service types.

Identities of the Navy's "Valiants" have so far not been traced, so it is conceivable that the 30 aircraft acquired from September 1946 onward may have included all versions of the type (e.g. BT-13, BT-13A, BT-13B, SNV-1, SNV-2, and even BT-15) as only one is known (the former 42-90302).

Three had been lost by January 1949, and 17 still remained by mid-1950. One, of course, was passed to the Paraguayan Navy in 1959. This Argentine form of "military assistance" presaged the end of the Argentine "Valiants", and 17 were offered for sale by December 1960. Fate of the remainder is unknown, although it is believed they were scrapped.

CAN codes for its "Valiants" appear to have run 1-E-100 through 1-E-129, but the four-digit Navy serials assigned to the aircraft (similar to USN "Bureau of Aeronautics numbers") are completely unknown.

Our illustration (Fig. 18) is of 1-E-122. Details of the insignia carried on the forward fuselage of this aircraft (believed to be that of the Escuela de Aviacion Naval) is solicited from the readers.

PANAMA

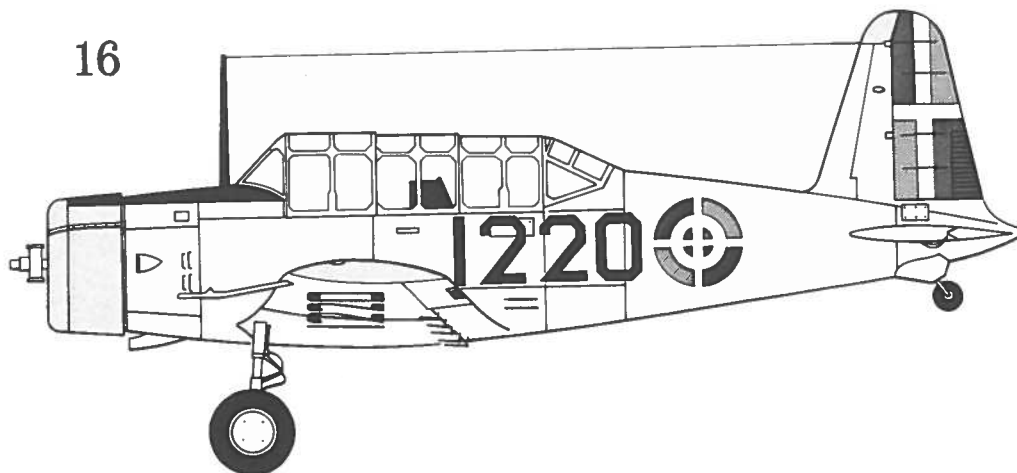
The final Latin American nation to acquire "Valiants" was Panama, which, following the war, saw the opportunity to crate an aviation element of its Guardia Nacional cheaply. Three BT-13A's were bought from a batch of surplus 6th Air Force aircraft located at Albroom Field in the nearby Canal Zone. These were ferried to Paitilla Field on the outskirts of Panama City by US pilots paid to do so on weekend.

At this time, the GN initiative to have an air arm was several steps ahead of its actual capabilities, as the GN had only two licensed pilot officers, and these had flown nothing more powerful than a PT-23.

A hapless GN pilot, perhaps by drawing the short straw, was selected to initiate GN service with "Valiants" by conducting a local familiarization flight. He took off south, over the shallow Bay of Panama, and promptly crashed. This aircraft's identity is uncertain, but was probably in the RX-50's or RX-60's of the post-war Panamanian civil register.

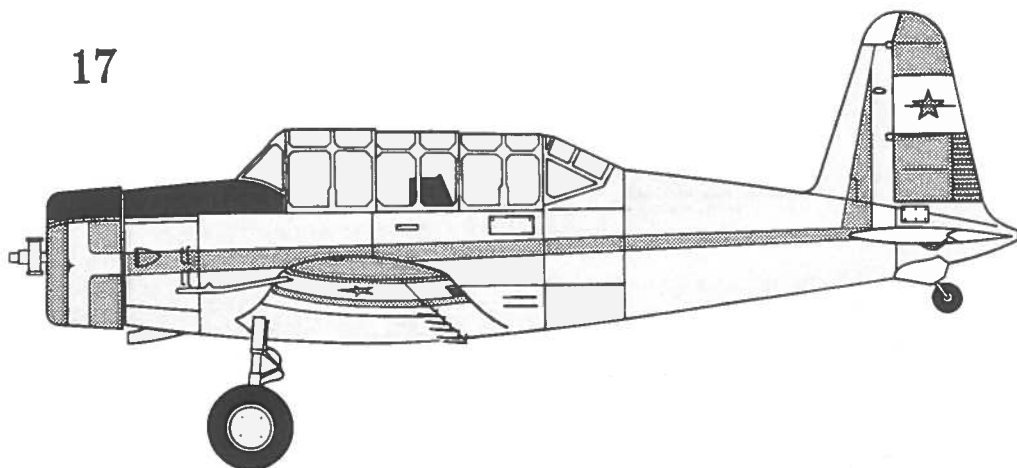
According to local pilots, the other two

16



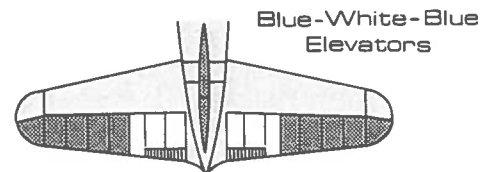
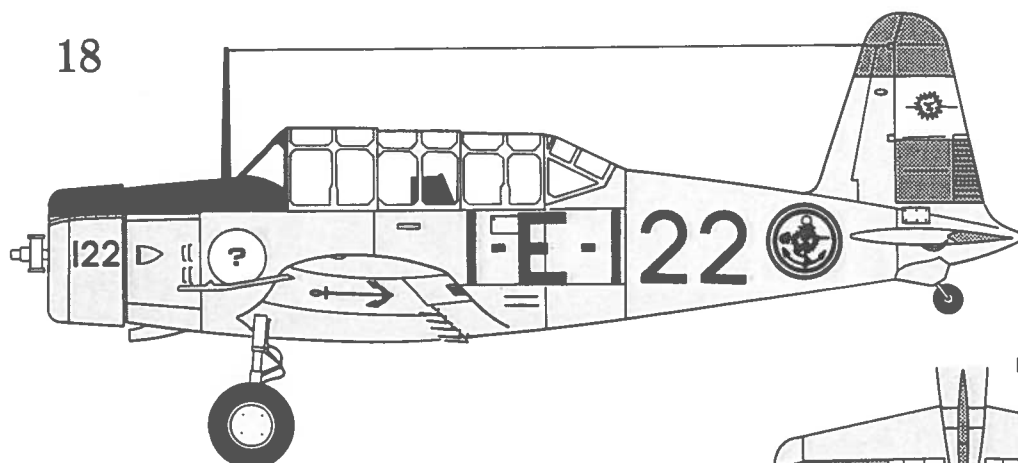
VULTEE BT-13A, Aviacion Militar Dominicana (later renamed Fuerza Aerea Dominicana), 1952 circa. The aircraft is overall natural metal with a yellow cowling, wingtips, and top of vertical stabilizer. The FAD insignia was carried in four positions only, with the aircraft serial number in large numerals on the upper right and lower left wings. Antiglare panel and mast antenna were painted flat black.

17



VULTEE BT-13A, Fuerza Aerea Hondurena, June 1958. Aircraft is overall yellow with blue cowling and fuselage chest line, with the rudder and wingtips painted the blue/white/blue of the Honduran flag. The antiglare panel is black, and note that no radio mast was carried on this aircraft.

18



VULTEE BT-13, Argentine Servicio de Aviacion Naval (Naval Air Service), September 1946. Aircraft is overall light grey with black antiglare panel, radio mast, and markings. Fuselage insignia was the standard Naval Air Service roundels, anchors were carried on the wings in place of these roundels, and the rudder was painted the blue/white/blue of the Argentine flag with the 'Sun of May' superimposed on the white portion. An unknown squadron insignia was positioned on the forward fuselage, though it is believed to be that of the Escuela de Aviacion Naval (EAN).

"Valiants", one of which was definitely RX-59 (Fig. 19), were never flown subsequently. They sat, moldering, near the GN station house at Paitilla for several years before being sold for parts and scrap together with several of the other aircraft which had been acquired for the GN. Panamanian service had to wait another 20 years until the creation for the the FAP for its next chance at flight.

SUMMARY

Of the total of 9225 BT-13A's, BT-13B's, BT-15, and transferred SNV-1's and SNV-2's built, not less than 491 saw military service in Latin America. Of these, 357 were factory-fresh "new" aircraft and 134 were "used" and represented a wide variety of conditions.

Additionally, at least 12 (and probably 13) commercially acquired "Valiants" went to Latin America for military service. This brings the total number of "Valiants" used in Latin American military service to just over 500. It is also calculated that a similar number of surplus "Valiants" went South to civil use following the war, some being operated by airline training programs, some in actual airline and taxi outfits as transports, some as dusters, and many as aero club trainers, not to

mention those that went to private owners - especially in Mexico.

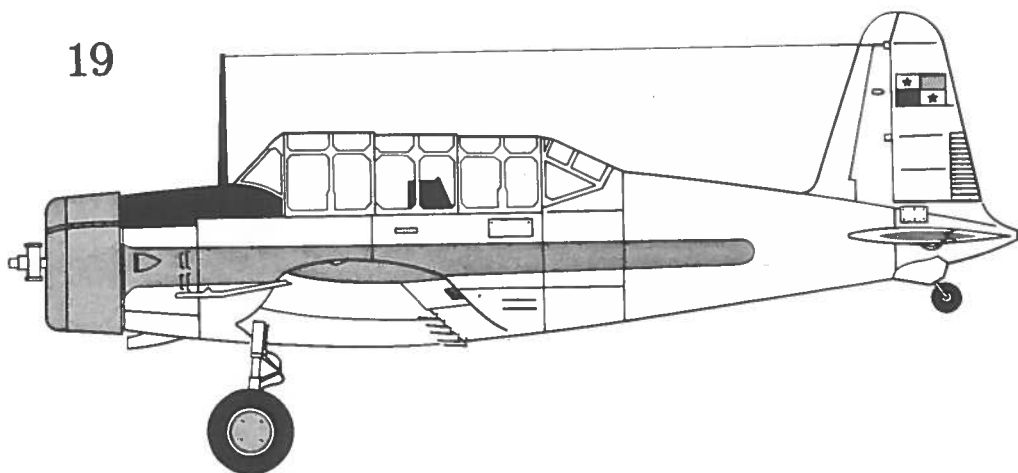
The "Valiant" will never be recalled as a "great" warbird, and possibly may not even warrant that superlative, but for many Latin American users it was the right plane at the right time. They certainly left their mark.

The author would like to express his heartfelt gratitude to a long-suffering friend, Boyd Waechter, who volunteered to render the superb drawings accompanying this text, often based only on the crudest of drawings and information by yours truly, combined with a motley collection of clippings, faded photos, and verbal reports. His enthusiasm for the project kept me interested.

(Editor's note: Dan and Boyd are now working on the story of the Cessna T-41 in Latin America. When this article is completed it will be published in the SAFO, so any readers who can help, please write to either Dan or Boyd at the addresses given below.)

Daniel Hagedorn (SAFCH #394), 912 Davie Lee, Copperas Cove, TX 76522

19



VULTEE BT-13A, RX-59E, Panama. Aircraft is overall white with forest green cowling, chest line, wingtips, wheel covers, and tips of horizontal stabilizers. Only military marking was a small Panamanian flag carried on the rudder. Antiglare panel and radio mast were black.

MODELING THE VULTEE "VALIANT"

The only kit of the Valiant to any scale is Execuform's 1/72-Scale Vultee BT-13. The first thing one notices about this kit is the total lack of detail, with Execuform providing only the basic outline of the airplane on a single sheet. This is definitely not a kit for the beginning vacuform modeler; experience in scribing and adding detail is a real must. There are no control surfaces indicated on the plastic, so careful attention and study of 1/72-scale drawings included with the kit will be necessary. An engine, seats, and wheels are provided, but these are best replaced either from the scrap box or by use of AeroClub's products. The five canopy sections are molded as a single piece with just the bare trace of

framework, so these will have to be painted or decaled on after again studying the drawings.

This kit may be a good one for those modelers wanting scribing experience or a desktop display model, but it will take a tremendous amount of work and patience to build into a contest-quality model. For what Execuform provides, their \$5.75 price tag is a bit steep, but then again, this is a limited run model and the only Valiant of any type in any scale. Thanks to Mike Herrill of Execuform for the review kit.

Boyd Waechter (SAFCH #339), 5018 Peebles Dr., Houston, TX 77084

well as local, regional, and continental air exercises between fighters and Strategic Air Command bomber training targets.

"To use an old cliché, this project has been a 'labor of love', produced with both the modeler and aviation enthusiast in mind. There are 10 superb color profile drawings of squadron aircraft and 2 fold-out pages of 1/72 scale line drawings. Over 200 photos make the book a visual knockout. *Canucks Unlimited* will appeal to anyone with an interest in 1950s combat aircraft and is ideal reference when building the Astra Scale Models 1/72 scale CF-100 Mk.4/5 vacuform kit. While the Avro CF-100 'Canuck' is little known in the U.S., it was in fact the historical contemporary of the Northrop F-89 Scorpion.

"*Canucks Unlimited* normally retails for \$19.95. As a fellow modeler, I am offering it to your members as \$18.00 post-paid, direct from the publisher at the address below. payment must be made in U.S. dollars either by cheque or money order."

Bob Baglow, 35 Glen Ave., Ottawa, Ontario, CANADA K1S 2Z6

SABRES UNLIMITED

"*The Canadair Sabre* by Larry Milberry is a grand book about the first modern combat aircraft to be mass-produced in Canada. Developed by North American Aviation in the immediately postwar years, the Sabre was adopted by the RCAF as its primary day fighter, especially for use in its NATO squadrons. In its time the Sabre was the ultimate jet fighter in the West.

"The book cover the story in detail from the first talks between Canada and the US in 1948, followed by training of the first technical personnel in California and introduction of the first RCAF pilots to the early F-86A in May 1950. Next comes the start-up of the Sabre program at Canadair in Montreal, the first flight by Al Lilly in August 1950, and the establishment of what was a marvelous Canadian industrial achievement - the Sabre production line at Cartierville, where a production rate of over 50 aircraft per month was reached.

"*The Canadian Sabre* then launches into the most detailed-ever look at the Sabre in action: formation of the first Air Division (NATO) squadrons in the UK, then in France and Germany; 'Leapfrog' - the transfer of Sabres overseas by flying them across the Atlantic; the key details of 'ops' with the Air Division's 12 squadrons, with the 'official' story enhanced by personal anecdotes from air and ground crew 'who were there.' The overall result is the finest record to date of the RCAF's postwar 'glory years.'

"The book also covers the Sabre training program at RCAF Station Chatham between 1952 and 1968, RCAF pilot who flew Sabres in Korea against the Soviet-built MiG-15, and the Overseas Ferry Unit. Test and development, the heyday of building the Orenda-powered Sabre 5s and 6s at Canadair, and the use of the aircraft in auxiliary squadrons are also part of this great story. A special chapter focuses on the numerous RCAF Sabre aerobatic teams, from the Fireballs and Skylancers to the incomparable Golden Hawks.

"The Sabre era in the Royal Air Force and the Luftwaffe, involving over 700 aircraft, is dealt with in separate chapters with plenty of photos and first-person accounts. Canadair's effort to market the Sabre abroad, including in

Latin America and Israel, are covered, as is the use of 'hand-me-down' RCAF and RAF Sabres by Italy, Greece, Turkey and Yugoslavia.

"An intriguing aspect of the Sabre story is their use by Pakistan in the 1971 Indo-Pakistan war. The details of how these 90 Sabres got to Pakistan and their success in combat, even against Mig-21s, make a fascinating story. This was the only time Orenda-powered Sabres saw action. Also included are lesser known bits of history, such as Sabres with the UN in the Congo, and in the Honduras Air Force in the 1980s.

"The book tells how, after the phase-out of the Sabre in Canada, almost 100 were converted by a small Canadian company for use by the US Army, and gives details of the last flying Canadian-built Sabres operating in the US as sport planes, target tugs, research and chase planes, and target drones.

"*The Canadair Sabre* is in a class of its own - rarely has a book dealt so splendidly with an aircraft. First of all, it is produced to the publishing standards that have made CANAV Books world famous for quality - well printed and bound, with a handsome full colour jacket. Combine this with the subject matter, almost everyone's favourite jet fighter, and the result is a book that few aircraft lovers will want to miss.

"There are over 500 beautifully reproduced black and white photos, most never before published in any book. As well, 70 excellent colour photos show the Sabre at its glorious best with the RCAF, Luftwaffe, USAF and other operators.

"Along with all the photos, *The Canadair Sabre* includes technical drawings (with multiviews of various marks), maps, excerpts from log books, and cartoons. the appendices include a full production list of all 1815 aircraft, with such data as essential dates, squadrons, fate of each aircraft, etc. Lists of squadrons, commanders, bases, and over 300 Category A crashes are included, along with a detailed list of Canadair Sabre marks with dimensions, weights, performance, quantities, first flight dates, etc. Never has such a massive amount of Sabre data been compiled into one volume. The book has a thorough index."

The Canadair Sabre is available for \$40.00 plus \$1.50 for handling from: CANAV Books, 51 Balsam Ave. Toronto, CANADA M4E 3B6.

EARLY POLISH AIRLINERS

BARWA W LOTNICTWIE POLSKIM #2, Samoloty Linii Lotniczych 1919-1930 by Jonca. 20.5 cm by 29 cm. 28 pages.

Coming out after BARWA #3 and #4, this issue describes the beginnings of civil aviation in Poland immediately following the country's rebirth at the end of WWI. The long wait for this volume has been worth it, because this is probably the most colorful, and best reproduced, of the four volumes so far published.

Aircraft covered in text, photos, and color drawings are: Handley Page O/400; 2 pages, 2 photos, and a 3-view of G-EAMD. Junkers F-13; 5 pages, 6 photos, two 3-views (P-PALG & SP-AAU), 8 side-views (Dz 33 "Danziger Luftpost", P-PALA, P-PALG, PP-ALA, P-PALM, SP-AAK, SP-AAC, & SP-AAW). Junkers G-23W; 2 pages, 2 photos, and a 3-view of S-504. Farman F-70; 3 pages, 4 photos, a 3-view of P-P.O.Z.B., 4 side-views (F-AGGH, P-P.O.Z.E., P-POZ.O., & P-POZ.E). Fokker F-VIIa/1M; 3 pages, 5 photos, a 3-view

of P-POZO, 4 side-views (P-POZP, SP-AAP, SP-AAO, & SP-AAM), the latter with a Pratt-Whitney engine. Fokker F-VIIb-3M; 3 pages, 3 photos, a 3-view of SP-ABA, 4 side-views (P-PAAA, SP-ABC, SP-AMH with two engines, & SP-AOF with 3 Pratt-Whitney engines). DH-60G Gipsy Moth; 2 pages with one photo and a 3-view drawing of SP-ADX. PWS-20; one page, one photo, and a side-view of SP-AAZ. Lublin R-XI; one page, one photo, and a side-view drawing of the prototype.

Also included are 3 pages of text with route maps outlining the history of the airlines.

This book is highly recommended to any small-air-forces enthusiast whose interest extends the least bit away from the purely military, and it will be particularly valuable to any modelers who have a spare HP 0/400 or a couple of Fokker F-VII's that they want to convert to into eye-catching single- or two-engine versions. The SAFCH Sales Service will try to keep this volume in stock.

MISCELLANEOUS KITS, BOOKS, PHOTOS, ETC.

[Editor's note: Our old friend, Fritz Braun (SAFCH #220), write about new kits, magazines, and services of small-air-force interest available in Europe. Please remember that Fritz can not supply these items, and he is merely bringing them to our attention. The mention of a product or service does not necessarily mean an endorsement by the SAFCH.]

"(1) A new firm (WKmodels Modellversand, c/o Werner Killersreiter, Dorfstr. 29, D-8050 Freising-Attaching, WEST GERMANY) is offering a line of epoxy and vacuform kits. I have already seen their 1/72-scale He 70 (in one piece with separate small parts) DM 29.95 and Breguet XIX (many fine single parts; superb) DM 24.95. Other 1/72-scale epoxy kits available include: He 178 DM 17.95, Polikarpov I-17 DM 22.95, MiG I-270 DM 21.50, he 170 DM 25.95, Letov S.231 DM 19.95, D-558 Skyrocket DM 29.95, Grumman XF5F DM 29.95. In 1/48 scale they have epoxy kits of the CA-13 Boomerang DM 45.90 and Polikarpov I-16 DM 36.95. Vacuform kits available in 1/72 scale are: Fokker T.VIII DM 23.95, Ta 154 DM 23.95, BV 155 DM 16.95, Ar 68 DM 15.95, Go 145 DM 16.95, Lohner L DM 16.95, and Su-5 DM 16.95; in 1/48 scale He 51A DM 26.95.

"(2) Tom Young's (MAI) book, *Encyclopedie des maquettes 1/72* is available at 175 Ffr from Maison du Jouet, 41 Boulevard de Reuilly, F-75012 Paris, FRANCE. A very interesting book. Publisher is a big mail-order kit firm.

"(3) Aviation Data Center, Browcown House, Brownells Lane, Feltham, Middlesex TW13 7EQ, ENGLAND: mainly civil aviation books, occasionally military transports & VIP aircraft.

"(4) Sceptic Aircraft Photo Service, 11A Corstorphine Park Gardens, Edinburgh EH12 7HH, SCOTLAND: black & white photos (9 cm by 14 cm and 13 cm by 18 cm only) of military & civilian aircraft.

"(5) Merlin Models, Dept. M, P.O. Box 5, Wincanton, Somerset BA9 9YJ, ENGLAND. 1/72-scale injection molded kits. Available in the USA from APC Hobbies, 11a Fence Road, Earlyville, VA 22936.

"(6) Midland Counties Publications and Midlands Counties Photographic, both at 24 The Hollow, Earl Shilton, Leicester, LE9 7NA, ENGLAND, and both highly recommended.

"(7) *Warplane Weekly* published by Orbis Publishing Ltd., Orbis House, 20-22 Bedfordburg, London WC2N 4BT, ENGLAND. 22

pages each, publication began circa 1 October 1985 and will continue for an estimated 100-120 issues. Will contain the description of 600 military aircraft since 1945. A must for all SAFCH members at 1.00 pound each. Also form Orbis are the following weekly publications: *The Illustrated Encyclopedia of Aircraft*, 24 pages. 75 pence each, ended with No. 216 in October 1985; military and civil aircraft of all times. *War Machine*, 24 pages, 80 pence each, began 1984, all modern weapons of the world air/land/sea. *World War II*, 30 pages, 95 pence each, began October 1985, profiles of aircraft, armor, ships, etc. All four series are largely in full color and are among the best of their kind ever published. Highly recommended. They can be obtained from: The Aviation Bookshelf, 656 Holloway Road, London N19 3PD, ENGLAND."

Fritz Braun (SAFCH #220), Posener Strasse 20, D-8000 Munchen 81, WEST GERMANY

"STORMOVIK" IN 1/72

Ilyushin IL-2m3 1/72-scale injection-molded kit from Mikro.

The fact that the Airfix kit of the IL-2m3 "Stormovik" is inaccurate has long been known, but not until the arrival of this new kit from Poland, did this reviewer realize how inaccurate it was. The fuselage and vertical tail of the Airfix and Mikro kits compare very well with each other and with available plans. However, when the wings and horizontal tail surfaces of the Airfix kit are placed on top of the corresponding Mikro parts, the failures of the Airfix kit become clearly evident. The Airfix wing and horizontal tail are far too narrow in chord, and the wing lacks the swept-back outer panel of the original. It is definitely impossible to use the Airfix kit to build anything that even resembles the real Shturmovik. The Mikro kit, on the other hand, compares very well with available plans, and at last we have a kit from which to build an accurate IL-2. The problem now is what to do with all those old Airfix kits; it seems a shame to throw them away. The wings might be used for some kit-bashing project, but there just doesn't seem to be any other aircraft that used the IL-2 fuselage. Perhaps one of our readers can suggest something that can be done with the Airfix kit, but please remember that this is a family magazine.

The Mikro kit is molded in soft but comfortable white plastic. The finely raised surface detail is sparse as proper for the wooden monocoque rear fuselage and light-alloy skinned wings. Interior detail consists of 9 parts including a very acceptable 12.7-mm Berezin UBT machine gun. Surprisingly, the propeller comes with three separate blades, but these are keyed for accurate assembly and the finished product does look better than if it were molded in one piece.

Two canopies are provided; one for the IL-2m3 two-seat version and the other for the IL-2 single-seater. Both canopies are thin with sharply delineated frames, but neither are extremely clear (a common fault with kits from Eastern Europe). The canopy for the two-seat version fit directly onto the fuselage, but to make the IL-2 it is necessary to trim the rear of the cockpit opening to accept the extension molded integrally with the single-seat canopy.

Unfortunately, the modeler wishing to build an accurate IL-2m3 is still not home free. Built straight from the box, the Mikro kit

makes up into a single-seat 11-2 that is in excellent agreement with the plans that appear in *Air Enthusiast Twelve*. However, the wings lack the addition sweep of the outboard panels as shown in the plans for the 11-2m3 in this same issue and in the 1/25-scale plans that appear in *Plany Modelarskie #121*. This additional 10° of sweep (from 5° to 15°) was applied to the outer wing panel to prevent the center of gravity from moving forward in response to the weight of the gunner and his armament and armor. An 11-2m3 built straight from the Mikro box might look convincing to even the critical observer, but if an 11-2m3 with an accurate wing planform were placed next to a model of the 11-2 built straight from the box, the difference would be immediately and painfully apparent. Correcting the wing sweep of the 11-2m3 should not be too difficult: cut the wing just outboard of the huge wheel housings and trim to give an additional 5° of sweep to the outer panel and reglue; some slight rescribing of the surface detail and realignment of the ailerons will be necessary.

The instruction sheet is excellent. Exploded construction views (a *la* Frog) need no translation. A history of the 11-2 with emphasis on service with Polish units and technical specifications are given in English and three other languages. A single plan view and 5 side-view drawings show the camouflage pattern and markings for one Soviet 11-2, two Soviet 11-2m3, a Polish 11-2m3 in war-time markings (red stars in the usual positions and a Polish checker-board insignia on the nose), and one 11-2m3 in post-war Polish markings.

The decal sheet provides markings for all 5 version illustrated on the instruction sheet. These decals, printed in red and white, are thin, well printed, and in perfect register, and includes two well-done patriotic inscriptions for the Soviet aircraft.

Any collection of models of the aircraft of WWII would be incomplete without an example of the 11-2, one of the most important aircraft to serve in WWII. At last, thanks to Mikro of Poland, we have a good kit of the ubiquitous Shturmovik. I will try to have some of these kits for sale through the SAFCH sales service, but for right now I am hanging on to all the ones I have.

PERUVIAN SUKHOI IN 1/72

Sukhoi Su-22 Fitter-F 1/72-scale injection-molded resin/plastic kit by Leoman. Distributed by R.V.F., Box 107, Burbank, CA 91503. \$22.99.

When Leoman announced that they were converting production from vacuform kits to resin kits, I was somewhat apprehensive. Besides the inevitable increase in price, I visualized a kit consisting of the usual one-piece fuselage and wings with the remaining parts barely recognizable on a brittle slab of resin. The arrival of the Leoman kit of the Su-22 provided a very pleasant surprise. The price was indeed high, but the kit is excellent. The difference seems to be between a "resin-cast" kit and an "injection-molded" resin kit. The Fitter comes out of the box looking very much like an ordinary injection-molded kit. The fuselage comes in two halves as do all the sections (fixed and variable-sweep) of the wing and horizontal tail surfaces. Surface detail is lightly engraved and well defined, although rescribing will be

necessary in a few places. One difference from an ordinary injection molded kit, is that the matting surfaces need to be sanded smooth before construction can begin. Another difference is that there are no alignment pins for the parts; while I prefer this for the fuselage halves, it does require care in fastening the wings and horizontal tail to the fuselage.

Included with the kit is a bag of injection molded plastic parts; these include wheels, landing gear struts, and commendably-thin landing gear doors (the openings for the landing gear must be cut out of the resin parts, no simple job considering the thickness of the brittle resin. Before attempting this job, the modeler should consider the consequences of leaving the landing gear bays closed. The vacuformed canopy is well-formed and clear.

An excellent review of this kit that appeared in the August issue of *FineScale Modeler* mentioned that several parts were broken on arrival. My kit arrived in perfect condition thanks to careful packing and the strongest box I have ever seen for a kit. (It took me a half hour just to "break into" the box.)

The kit does not contain any decals and the instructions are rather minimal. Printed on the box are a photo of the completed model, technical specifications, and exploded construction diagram with brief construction details, and a three-view drawing of the aircraft in Peruvian markings with color specifications. The review in *FineScale Modeler* mentions that photos show the roundel on the upper surface was on the port rather than the starboard wing. Nick Waters (of SAFO MiG fame) informed me that the aircraft number was carried on the upper surface of the starboard wing. Within the box is a sheet containing drawings of landing gear details and templates for trimming fuselage pylons, wing pylons, landing gear doors, and pitot tubes to correct shape and size.

Leoman's kit of the Su-22 Fitter-F is the best resin kit I have seen. It can be highly recommended to any experience modeler.

Other Leoman injection-molded resin kits available now are the Su-17M Fitter-D, Su-22 Fitter-J (as used by Libya), Su-22U Fitter-E (2-seater), Su-9 Fishpot-B, Su-11 Fishpot-C, and Su-9U Maiden (2-seater); all these are in 1/72 scale and they cost \$22.99 each. Also available now, but in 1/144 scale are the DHC-4 Caribou (\$21.99) and the British Aerospace 146/200 (\$22.99). Send to the the distributor for a catalog that list such future releases in 1/72 as the Flagon, Fencer, Frogfoot, Yak-28P, B-66G, S-58, 1A1 Sea Scan (Westwind), Mandrake, Northrop X-4, Bell X-5, XF-85, 1Ae. Pulqui, Bell X-2, Douglas D-558, and Hindustan HF-24 Marut.

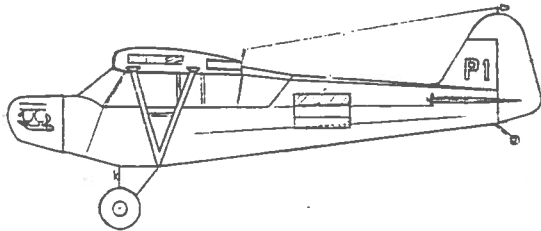
The distributor has kindly offered to allow these kits to be sold through the SAFCH Sales Service. All the presently available 1/72-scale kits can be purchased by sending \$18.60 to the SAFCH Sales Service. This price includes \$2.50 for postage and handling; if experience shows that this cost can be reduced, the excess postage will be credited to your SAFCH account.

The review kit was kindly provided by R.V.F.

WEST INDIES MILITARY AVIATION UPDATE

"On returning from a trip to Europe to attend the Hanover Air Show, I found the April 1986 issue of SAFO waiting for me. This is the issue that contains my comments on military aviation in the West Indies. As these things usually go, I already have corrections to this information. During a brief stop over in Holland, I obtained three photos of Piper P-1 which will necessitate some additions and corrections to the information and sketch published.

"These previously unavailable photos show that the P-registration was carried not on the fuselage as shown on my earlier sketch, but on the vertical stabilizer. They also show that the red/white/blue Dutch flag was applied to the lower surfaces of both wings. The Cubs had a radio installation with a trailing antenna extending from a mast on the top of the cabin to the top of the rudder with an antenna sock at the far end of the wire. What appears to be a wind-driven generator is mounted on the V-cabane strut of the main landing gear.



"My Dutch friends and I also dug up some pilot logbooks that provide further information on the operations of these aircraft. These books indicate that P-1 first operated at Curacao on 6 June 1943, and the last entry in this logbook is on 26 October 1945. P-2 first appears on 24 July 1943 when it was taken up for a test flight. Its last entry was 11 November 1954. These last entries coincide with the end of these logbooks."

Jerry Casius (SAFCH #649), 91 N. Main St., Cedarville, NJ 08311

COLOMBIAN WILD ADDITIONS & MORE

"I would like to provide some comments and additions to some articles in SAFO #37 and #38.

"The first of the Wild aircraft received (in 1924) was referred to by the Colombians as the Wild WT and has also been reported as serial number '17', although I've always felt '11' was more likely, as the SAFO article reports. The fate of this aircraft is not known to me, but I do not believe it survived very long.

"The next three aircraft are usually referred to as Wild WT43D's (I have never seen the designation W1 before). Oddly enough, these aircraft have been reported as being powered by a bigger engine than usually reported, although a photo I have of '13' and '14' seems to show an engine in the 185-hp class. One of these aircraft survived as late as 1931, but the other two appear to have been written-off earlier. As stated in the article, '12' crashed in late February 1928.

"The next series of aircraft are frequently referred to by the Colombians as the Wild-Comte X. A significant body of evidence suggests that the total received was 10 rather than eight:

"(1) On 15 December 1931, six Wild aircraft made a mass flight from Barranquilla to

Medellin. Total number of hand stood at seven on 1 July 1931.

"(2) As of 17 February 1933, six Wilds were on hand.

"(3) The last eight Wild aircraft (420-hp Jupiter engines) for the Colombians left the plant for delivery on 25 July 1928; we know that at least two other departed on delivery some time after November 1927 and earlier than May 1928.

"(4) I think that the serials '43', '44', '45', and '46' listed in Andrade's *Latin American Aviation* are in error. Based on photographic evidence, these serials were carried by Consolidated PT-11C's. It is more likely that the first two Wild-Comte X's were retroactively serialized '10' and '11'. Surviving Wild X's later were serialized '103', '104', '105', and '106'. Of these, '103' was current as late as 15 January 1937, while '104' was on hand as early as 1931. Aircraft '105' crashed on 17 April 1934 at Madrid Air Base, and '106' was current as late as 1932.

"(5) An Intelligence Report dated 24 July 1929 reported that eight Wilds with 420-hp Jupiter engines were the only operational aircraft in the entire Colombian Air Force. Two Wild trainers were reported as having been 'condemned and are no longer in use'. These were almost certainly WT43D's '13' and '14'.

"(6) On 3 March 1926, there were four Wild aircraft in the Colombian Army!

"(7) An unidentified Wild crashed into the Caqueta River on 17 December 1932.

"(8) By 15 March 1933, no fewer than six Wilds survived and these were to be fitted with new engines by a mechanic of the Wright Aeronautical Corp. who was due to arrive in Colombia by 17 March 1932.

"(9) Finally, a report dated 16 May 1928 stated "Colombia has received delivery of two of eight Wild X aircraft with Gnome-Rhone 9ADX Jupiter 420-hp engines. There have also been purchased and delivery expected prior to August 1928 four Wild Trainers with 180-hp Hispano-Suiza engines".

"This last report really screws up the whole thing.

"I also have some comments on Nick Water's fine drawings of small-air-force MiG's. I have always thought that the Cuban MiG-17 'FAR-232' was a Fresco C. Photos I have of this aircraft at Homestead AFB after it defected shown that the rudder insignia does not come all the way forward on the rudder - it stops short of the wing by about two or three inches. Also, the national insignia on the starboard upper wing isn't as presented on the drawing; the forward edge of the triangle is parallel to the leading edge of the wing."

"I enjoyed Jorge Nunez' fine piece on the Argentine Navy F9F-2's - an article long overdue on a very significant aircraft in Latin American aviation history. I can only add a few comments: Jorge cited the fact that 24 aircraft were delivered 'plus an unknown number of F9F-2 spares'. The official quantity according to the US Government was 28, and I have always presumed the extra four airframes implied were the source of the spare parts. Readers should also know that the markings 3-A-118 carried by the aircraft at one time on display at the Naval Museum are spurious; the real 3-A-118 was one of three F9F-2's destroyed on 2 April 1963 (the others being 3-A-105 and 3-A-107).

"On the 'Snippets from SEAR', readers should be advised that the Uruguayan Chipmunk 20's

were DHC-built machines and that one (and possibly more) carried an 'E-' prefix to the serial (e.g. E-604). Also, the 40-50 Venezuelan AF accidents 'not previously reported' are seriously in error in places, and should be treated cautiously.

"With regard to my friend Jerry Casius' excellent article on military aircraft in the Dutch West Indies. I'm afraid that I have to disagree with his statement that US aircraft 'occupied' Surinam before Pearl Harbor. The A-20's of the 50th Bombardment Squadron were stationed at Aguadulce, Republic of Panama, as late as 11 December 1941, when deployment of a detachment to Hato Field (Dutch West Indies) began. This movement was completed on 13 January 1942. I might add that I've never seen any mention of the Lend-lease aircraft he cited as being sent to Aruba/Curacao/Surinam, so we must assume that they were charged against the main Dutch Lend-Lease account.

"Regarding William Lee's interesting letter in which he mentions the ferry of Venezuelan Army Agusta-Sikorsky S-61's, I felt certain the serials should have been prefixed 'EV-' instead of 'FV-'.

"I would like to end with a mention of a truly outstanding article that appeared in the AIR-BRITAIN publication 'Archive', No. 2, 1986 on the early aircraft of the Ethiopian Air Force - including some outstanding photos! Also details of the aircraft."

Daniel Hagedorn (SAFCH #394), 912 Davie Lee, Copperas Cove, TX 76522

WHITE RUSSIAN AIRCRAFT INSIGNIA

"The article on the "White Russian Nieuport" in SAFO #38 reminded me of a photo that appeared in *Air Aces of the 1914-1918 War* published by Harleyford. This photo shows several Voisin aircraft of the Don Republic, one of which carries a triangular insignia similar to that carried on the Nieuport. I have also received a photo from a friend in England which shows this Don-operated Voisin. I would like to throw open the question whether this triangular insignia was used by the White Russians or by one of the Russian republics.

"Perhaps it would be useful to remind SAFO readers of the confused political situation in Russia at this time. Under the Kerensky Government, all of the Russian Republics were to be joined in a loose federation with the Central Russian Democratic Government (recall that the Czar was out!). Of these Republics, the People's Socialistic Republics of the Ukraine, Don, Armenia, and Georgia readily accepted. All these had armies and, with the possible exception of Georgia, they operated aircraft. Estonia, Bylorussia, Finland, and Latvia were awaiting a decision from the central government on accepting them as part of this Federation.

"Then along came Deinken, who renounced the ideas of federation, socialism, and semi-independence; he would accept only a strong central government. Thus, the Russian Whites fought against the Ukraine, the leader of the Don Republic was killed, Finland's socialist government was overthrown by the German-back Finnish Whites (they came their air force), Latvian Whites fought the Baltic Germans (then came their air force), the Lithuanian fought against both the Soviet Reds and the White Poles, and the Bylorussian Socialist Republic, which didn't have an army, was over-run by the Poles. Georgia reportedly had an army -

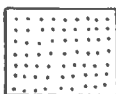
possibly an air force. The Armenian Socialistic Republic joined the Reds after the fall of Kerensky.

"In the T-V Special *Peter the Great*, a collection of Imperial Russian badges of the Provinces was shown. These included one with the triangular insignia, but the color was red-violet, not blue. Perhaps the triangle was used as an insignia by more than one of the Russian Republics."

Douglas BreVeglieri (SAFCH #612), 225 Main St., Bridgeport, CT 06604

A STANDARD COLOR CODE?

"A standard code used to represent colors in black and white drawings is internationally recognized by persons interested in heraldry and vexillology. This code is reproduced below as a suggestion to artists working on contributions for the SAFO. Gradations in tone can be represented by using a medium stroke pen for normal colors, a thick pen for dark hues, and a thin pen for light hues. Can anyone come up with a similar codification for camouflage colors?"



yellow



white



red



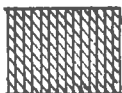
green



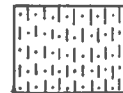
purple



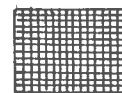
blue



brown



orange



black

Fritz Braun (SAFCH #220), Posener Strasse 20, D-8000 Munchen 81, WEST GERMANY

ADDITIONS AND CORRECTIONS

Additions and corrections to the Reviews that appeared in recent issues.

(1) Inadvertently left out of the review (SAFO #38) of Paul Cardwell's *Index to Model Periodicals 1976* was the price. The 1976 edition costs \$7.95 plus \$1.00 for postage within North America or \$2.00 for overseas delivery by surface mail. Air mail delivery to Europe costs \$7.36 and to Australasia \$10.11, making it a rather impractical alternative to patience.

(2) The address of the publisher of *Aviacao Militar Brasileira 1916-1984* (reviewed in SAFO #38) is Editora Revista de Aeronautica, Praca Marechal Ancora 15, CEP 22021, Rio de Janeiro, BRAZIL. You can obtain this excellent book by sending US \$10.00 for sea mail delivery or US \$12.00 for air mail delivery.

(3) Bill Brown's review of *Aviacion Mundial en Espana, Vol. 1*, by Miranda and Mercado, gave the mistaken impression that they were also the authors of the book "Grandes Vuelos de la Aviacion Espanola". In actuality, they were responsible only for the line drawings.

THE FLIGHT OF THE "LITUANICA"

DARIUS-GIRENAS by Edmund Jasiunas. 22.5 cm by 29 cm. 263 pages with text in both Lithuanian and English. Hardbound. Published by the Darius-Girenas Album Committee, Chicago, 1984. \$25.00 from the author, E. Jasiunas, 3704 W. 79th Place, Chicago, IL 60629.

"Early in the morning of July 15, 1933, two heroic pilots, Stephen Darius and Stanley Girenas, lifted off in their orange-colored 'Lituanica' from Floyd Bennett Field in New York to fly non-stop to their native country, Lithuania. Some 37 hours and 4000 miles later, they crashed to their deaths near Solin, Germany, only 400 miles short of their goal, Kaunas.

"They were declared national heroes. Many streets, bridges, squares, and various organizations were renamed for their remembrance. Impressive monuments were built. Today, a half century later, Darius and Girenas are still very deep in the hearts of Lithuanians around the world.

"This album will give a short history of the lives of both pilots, their historical flight and the commemoration of their deed up to the present day."

The text begins with 22 pages in English describing the life of the two pilots, the preparations for their flight, the flight itself, and its aftermath. This is followed by 37 pages telling the same story in the Lithuanian language. The largest part of the book, 190 pages, is devoted to photos of the pilots and the aircraft they flew. These photos are large and they are excellently reproduced on high-quality paper. Of particular interest are the photos of Darius taken while he was serving in the Lithuanian Air Force many of which show Lithuanian LVG C.VI's and Fokker D.VII's. Also of special interest is a photo of the two Percival P-16Q's (LY-SOA & LY-SOB) of the Lithuanian Air Line. However, pride of place belongs to the Bellanca CH-300 Pacemaker 'NC 688E' "Lituanica". Forty pages of photos show this beautiful aircraft in such wonderful detail that any scratch builder worth his salt will be sent scurrying to his collection looking for scale drawings of the Pacemaker. The rest of us ordinary model builders will be left with the sad realization that the Pacemaker will never be the subject of an injection-molded kit; our only hope is for a vacuform kit from Execuform or one of the other smaller companies.

This book can be highly recommended to everyone who believes that there is more to aviation than aircraft. The majority of the photos show people and things other than aircraft, but these so accurately bring back the feeling of a time long past that the photos that do show aircraft are that much more effective.

Edmund Jasiunas, who incidentally is a SAFCH member, deserves the greatest praise for producing such an excellent book. I hope that many SAFO members will wish to encourage high quality research by adding this book to their libraries, and a fine addition it would be to any library.

By the way, Ed has completed his second book-album. This one is about a transatlantic flight of Felix Waitek in the "Lituanica II" on 21-22 September 1935. This book is now at the printer and it should be ready for mailing by October or November of this fall (1986).

METAL AIRCRAFT ACCESSORIES

Scale aircraft accessories and kits for the vacformer and converter. Aeroclub Models, 5 Silverwood Ave., Ravenshead, Notts., NG15 6AV, ENGLAND.

The new catalogue from Aeroclub Models arrived along with a sampling of white-metal accessories for review. A list of items received and some comments should serve to represent the extensive list of products.

Engine/Prop Packs 1/72: 7cyl Wright 760E Whirlwind, 7cyl Jacobs L5, 5cyl Kinner B5, 7cyl Continental W760, 7 cyl Warner Scarab, 6cyl Issota Fraschini V4-6, and 9cyl Salmson 9AD. (70 pence each)

Guns 1/72 (two per set): Skas 7.62, Degtyarev 7.62, M60 Helicopter (door) gun. (35 pence each)

Accessories 1/72: low-pressure wheels 10.5mm dia Jaktfalk (35 pence), Scarff gun ring with Lewis gun (61 pence).

Ejection seats 1/72 (two per set): Martin Baker Mk2 (Meteor, Wyvern, Sea Hawk, Venom, CF100, Canberra), Martin Baker Mk1 (early experimental and service jets). (91 pence each)

Besides the above, the new catalogue lists a full line of parts in 1/48 scale, three different sheet of civil letters decals, vacuform kits in 1/32, 1/48, and 1/72 scale, and a variety of conversion kits. Examples of the vacuform kits available in 1/72 scale are the Comper Swift, Klemm L25, and Miles Messenger (2.40 pounds each). A description of the Spitfire conversion kit will serve to illustrate this line: "The kit contains complete vacuform fuselages with appropriate propeller and other fittings in white metal. A canopy is also included. The accurate easy-to-make fuselages are designed to fit the Airfix Mk1a (a good basic wing) or the Heller Mk16e, or use our Mk9e vacuform wing as appropriate to type. Available now: Mk FX11, Mk FX1Vc, Mk FXVIII, Seafire 17." (1.96 pounds each) Spitfire E type wing "A complete wing and tail in vacuform styrene for use with our fuselage conversions when other kits are not available" (1.70 pounds)

Any modeler contemplating scratch building or major conversions should obtain this catalogue. The price is 34 pence. And, you might as well order some parts at the same time; you wont be disappointed. Postage for overseas is 25% of cost of order for orders costing under 10 pounds and 20% for orders over 10 pounds.

EMBRAER NEWS

The Embraer/Shorts Tucano prototype, fitted with the Garrett TPE-331-12B engine of 1100 SHP driving four-bladed propellers, made its sixth and last flight in Brazil on March 21st.

The aircraft first flew on February 14th, piloted by Embraer test pilot Gilberto P. Schittini, and clocked a total of 8:25 hrs before being partially disassembled and flown to Belfast, on March 27th, on board a cargo transport of British carrier Heavy Lift. It has since been reassembled and resumed flight testing with Shorts.

The RAF order for the Embraer/Shorts Tucano amounts to 135 aircraft, with 10 more on option. More than 500 Tucanos have been ordered and optioned so far by air forces in Brazil, Egypt, Iraq, Honduras, Great Britain, and other undisclosed countries.

LITHUANIAN NATIONAL GUARD KLEMM KI 35B

In 1938, the Lithuanian National Guard (*Saulius Sajunga*) purchased from the Hans Klemm Co. of Boeblingen, Germany, one Ki 35 two-seat, open cockpit airplane powered by a Hirth HM 504 inline, inverted, air-cooled, four-cylinder, 100-hp engine. The cost of the airplane was 38,000 litas (approximately \$6300). The airplane was equipped with dual controls, "blind flying" instruments, and was suitable for glider towing and for aerobatics. The characteristics of the airplane included: Cruising speed 118 mph; empty weight 990 lb; fully-loaded weight 1650 lb; and fuel capacity 24 gal.

In 1939, the Lithuanian National Guard bought a further two Ki 35s which were also equipped with 100-hp engines and full instrument panels. The money for these two planes was donated by Lithuanian Businesses, organizations, and individuals.

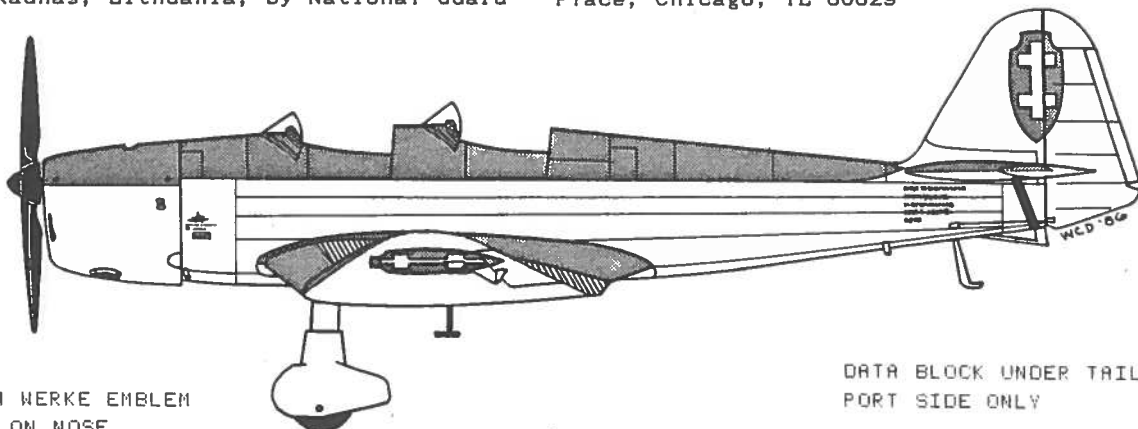
All three Ki 35s were ferried from the Klemm factory to Kaunas, Lithuania, by National Guard

pilots. There airplanes were flown mainly by reserve military pilots, they were also used to train new pilots. The aircraft were flown from Kaunas airport.

The Lithuanian National Guard Ki 35s carried the following color scheme: fuselage (except top), vertical tail surfaces, and landing gear fairings - white; top of fuselage, lower surfaces of the wing and horizontal tail - olive drab; upper surfaces of the wings and tail - white and olive drab stripes. The Lithuanian National Guard emblem consisted of a white Knight's Cross on an olive drab shield. This insignia was carried on the under surface of the wing and on both sides of the vertical tail.

After the occupation of Lithuania by the Soviets in 1940 the fate of these Ki 35s is unknown.

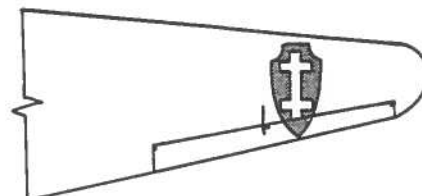
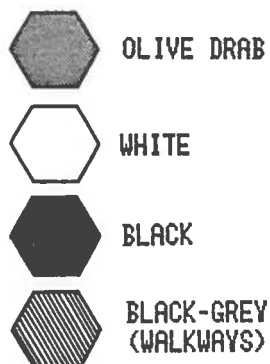
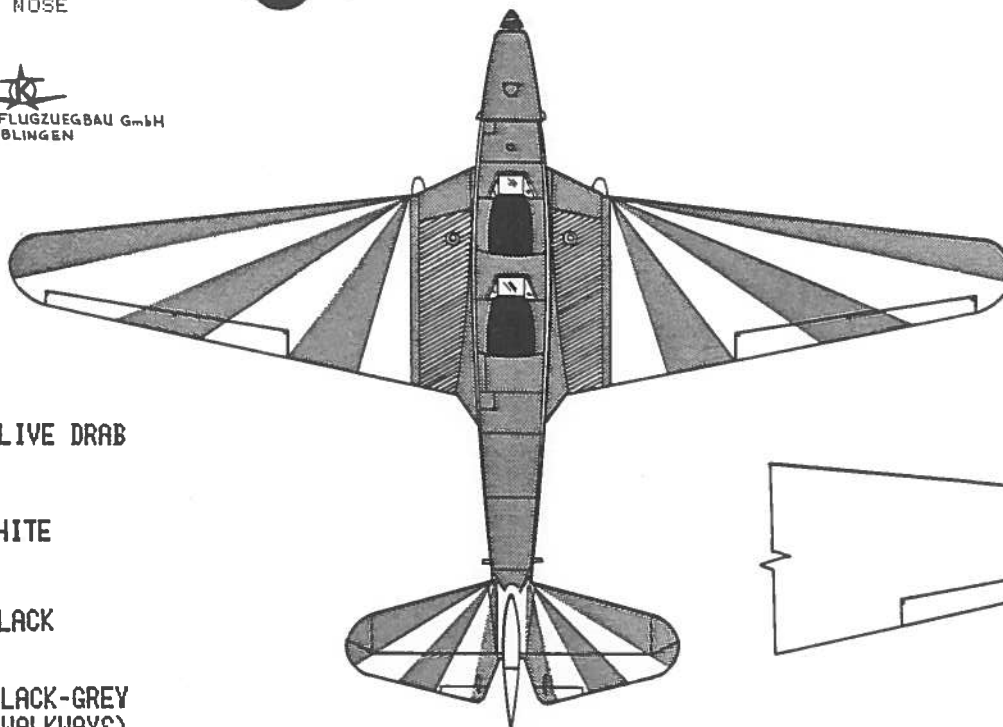
Edmund Jasiunas (SAFCH #287), 3704 W. 70th Place, Chicago, IL 60629



KLEMM WERKE EMBLEM
ON NOSE

DATA BLOCK UNDER TAIL:
PORT SIDE ONLY

HANS KLEMM FLUGZUEGBAU GmbH
BOEBLINGEN



Art by Bill Devins

LITHUANIAN AVIATION 1918-1940

During the short period of independence between 1918 and 1940, the growth of military and civilian aviation in Lithuania was spectacular.

During the first ten years, military aviation used mainly the old airplanes of World War I era. The very first Lithuanian airplane was a Sopwith 1-1/2 Strutter captured from Bolshevik forces in 1919 during the battles for independence. During the second decade between 1930 and 1940, Lithuanian military aviation grew more modern and stronger. In June 1940, when the Soviet Union occupied Lithuania and the other Baltic states (Latvia and Estonia), Lithuanian military aviation was equipped with the most modern war machines of the day: Gloster Gladiators, Dewoitine D.501s, and others. Even French Morane Saulnier MS 406s were on order.

The progress in domestically-built airplanes was also very impressive. Starting with simple single-seat sport planes; the Dobi I and ANBO I, it developed into a modern industry, building reconnaissance bombers and other sophisticated types.

Here is a short summary of the airplanes used by the military and civilian aviation of Lithuania:

Military Aviation World War I Era Airplanes

Make and Type	Service Years	Number
Sopwith 1-1/2 Strutter	1919/1928	1
Albatros B.II and B.IIa	1919-20/1934	7
" C.I and C.Ib	1919/1936	8
" C.III	1919-20/1936	14
" C.XV	1919/1940	1
" D.III	1919/?	1
" J.II	1919/1940	3
DFW C.V	1919/?	1
Fokker D.VII	1919-20/1940	6
Friedrichshafen G.IIIa	1919/?	2
Halberstadt CL.II	1919/?	1
" CL.IV	1919-20/?	16
" C.V	1919/?	5
LVG C.V	1919/?	3
" C.VI	1919-20/1940	12
Rumpler C.I	1919-20/?	3
" C.IV	1919/?	1
Junkers F.13*	1919/1920	1

Foreign-Built Airplanes Purchased in Later Years

Martinsyde F.4 Buzzard	1921/1937	2
SVA 10	1923/1932	12
Letov S-20L	1925/1939	10
Fiat Ansaldo A.120	1929/1940	20
Fiat CR.20	1929/1940	15
Lockheed Vega 5B**	1935/1940	1
Dewoitine D.501L	1936/1940	14
DH 89A Dragon Rapide	1937/1940	2
Avro 626	1937-38/1940	2
Gloster Gladiator	1938/1940	14
Bu 133 Jungmeister	1939/1940	6
MS 406 (not delivered)		13

Airplanes Built in Lithuania

Dobi 1	1922/1923	1
" 2	1923/1923	1
" 3	1924/1926	1
AFG I	1925/?	2
ANBO I	1925/?	1
" II	1927/1931	1
" III	1929-30/1940	9
" IV	1932/1940	22
" 4I	1937/1940	20
" V	1930/1940	5
" 5I	1937/1940	12
" VI	1933/1940	4
" VIII	1939/1940	1

CIVILIAN AVIATION

Aero Club of Lithuania

Albatros B.II	1929/1938	3
ANBO II	1932/1934	1
DH 60T Gipsy Moth	1935/1940	1
DH 82 Tiger Moth	1936/1940	2
Cierva C.30	1935/1940	1
Caudron C.282 Phalene	1936/1940	1
Taylor Cub	1937/1940	1
Bu 133 Jungmeister	1938/1940	1
Bu 131 Jungmann	1939/1940	1
Farman F-393	1939/1940	1
Letov S-18	1935/1940	1

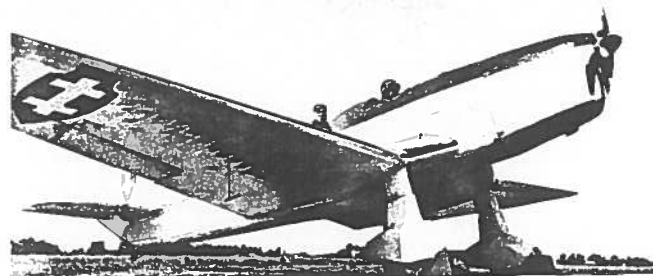
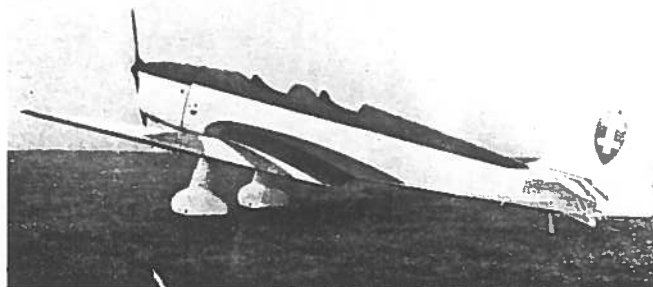
Lithuanian National Guard (Saulius Sajunga)

Klemm Kl.35b	1938/1940	3
Taylor Cub	1938/1940	1

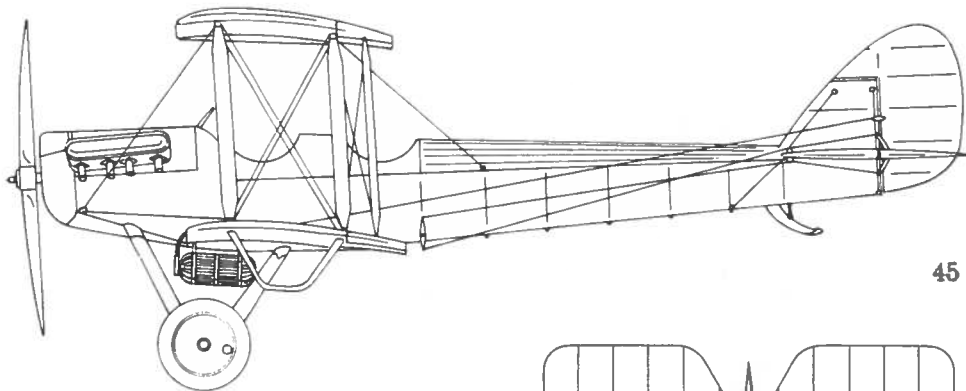
Lithuanian Air Line (Oro Linija)

Percival P-16Q.6	1938/1940	2
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Edmund Jasiunas (SAFCH #287), 3704 W. 70th Place, Chicago, IL 60629

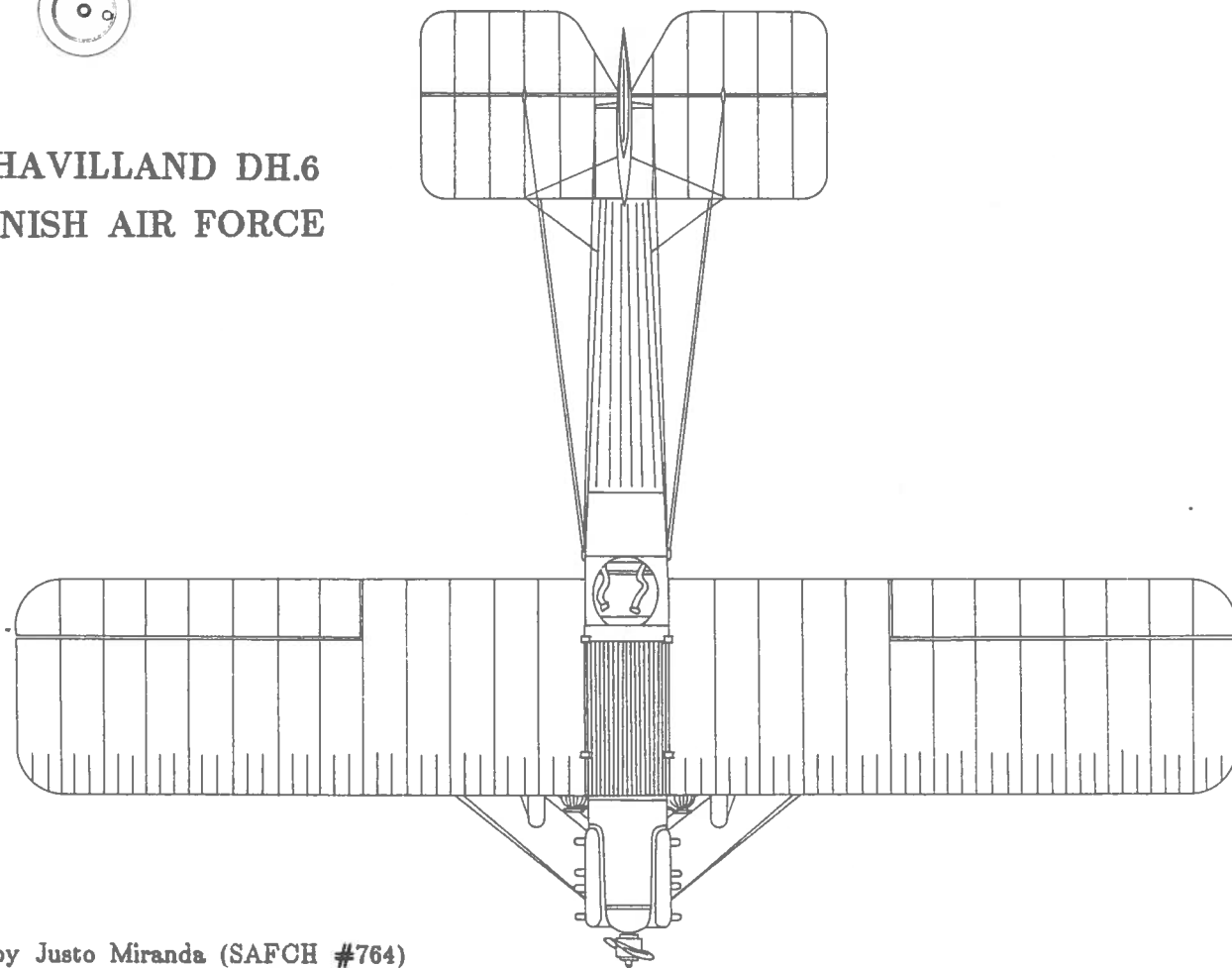


*Lithuanian National Guard Klemm Kl 35B
(Photo via Edmund Jasiunas)*



45 AIRCRAFT MODIFIED IN 1920

DE HAVILLAND DH.6
SPANISH AIR FORCE



Drawn by Justo Miranda (SAFCH #764)

